INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT SITE INSPECTION FOR LUSHER STREET GROUNDWATER CONTAMINATION SITE ELKHART, INDIANA ELKHART COUNTY

U.S. EPA ID: ~~IND048994131~~ IND982073765

(VOLUME 1 OF 2)

LQ Ripley
06/06/2007

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

SITE INSPECTION REPORT

FOR

LUSHER STREET GROUND WATER CONTAMINATION

ELKHART, INDIANA

ELKHART COUNTY

U.S. EPA ID: IND982073785

May 1, 2007

Signature Page
for
Lusher Street Ground Water Contamination
Screening Site Inspection
Elkhart, Indiana
Elkhart County
U.S. EPA ID: IND982073785

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SECTION I

INTRODUCTION

The Indiana Department of Environmental Management (IDEM) Site Investigation Section, under a Cooperative Agreement (CA) with the United States Environmental Protection Agency (U.S. EPA), Region V, has been funded to perform Site Inspections (SI) at certain sites listed in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS). This work is conducted under the authority of the Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 (aka Superfund), and the Superfund Amendments and Reauthorization Act (SARA) of 1986. Sites eligible for SI include those sites for which the Preliminary Assessment (PA) did not conclude that "No Further Remedial Action is Planned" (NFRAP), as reflected in CERCLIS.

The primary objectives of the SI are:

- To collect data, using the Hazard Ranking System (HRS), required to make the determination of whether the site should be placed on the National Priorities List (NPL);
- To identify sites that may require removal actions to address immediate threats to human health and/or the environment.

The Site Investigation Section was given approval by the U.S. EPA to conduct a SI at the Lusher Street Ground Water

Contamination (LSGWC) area located in Elkhart, Elkhart County, Indiana. LSGWC was discovered in 1988 while investigating the Gemeinhardt facility in Elkhart. The water in numerous residential wells around Lusher Street was found to be contaminated with various levels of chlorinated solvents. The private wells that were found to be contaminated were hooked up to municipal water or were provided carbon filters. In late 2005 and 2006, more residential wells in the LSGWC area were found to be contaminated with elevated levels of chlorinated solvents. IDEM referred these identified residential drinking water wells to EPA in 2006 for a removal assessment and possible time critical removal action for those wells which have exceeded or were close to exceeding the maximum contaminant level (MCL) for trichloroethylene (TCE) in drinking water.

Information contained within this report will be used to evaluate this site under the Revised Hazard Ranking System Model for possible inclusion on the National Priorities List (NPL) of hazardous waste sites.

SECTION II

SITE BACKGROUND

2.1 Introduction

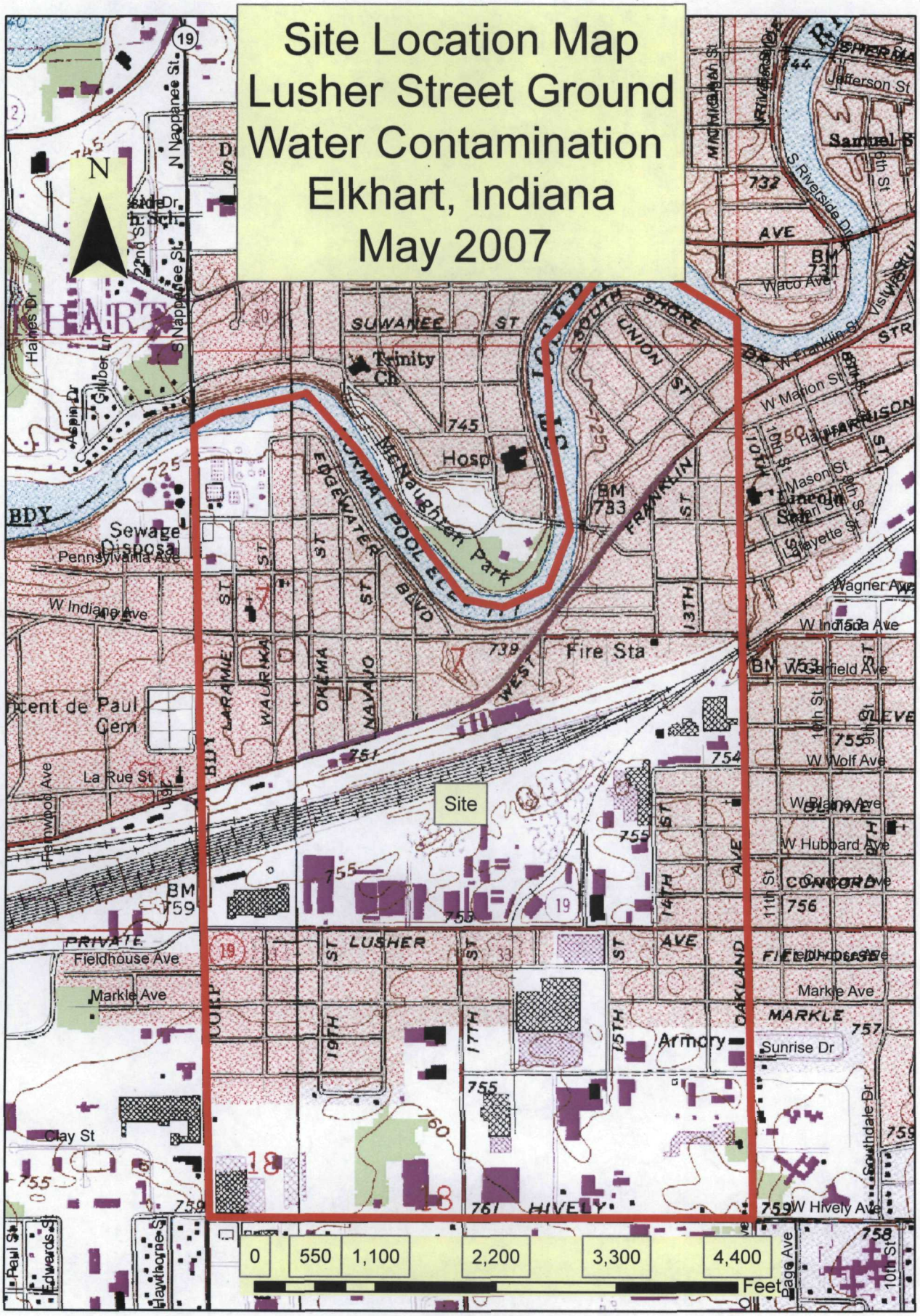
This section includes information obtained from the IDEM -RCRA files, U.S. EPA files, IDEM's Drinking Water program, and from U.S.G.S topographic maps.

2.2 Site Description and Location

LSGWC can be found on the U.S.G.S. Elkhart Quadrangle Topographic Map. LSGWC lies in Section 7 in Township 37 North, Range 5 East. The center of the site is located at 41°40'22.3" latitude and 85°59'46.88" longitude. Refer to the Site Location Map on Page 2-2.

LSGWC is bordered to the north by the St. Joseph River, to the west by Nappanee Street, to the south by Hively Avenue, and to the east by Oakland Avenue. LSGWC is characterized by the surface representation of a ground water plume containing chlorinated solvents. The plume is outlined by private drinking water wells known to be contaminated by chlorinated solvents. LSGWC is located on the southwest side of Elkhart in a mixed industrial/residential setting. Conrail and Norfolk Western railroads bisect the LSGWC area.

Site Location Map
Lusher Street Ground Water Contamination
Elkhart, Indiana
May 2007



2.3 Site History

In the late 1980s, while conducting an extent of contamination study at the Gemeinhardt Inc. facility under the terms of a Consent Order with the U.S. EPA., volatile organic compounds (VOCs) were detected in private drinking water wells in an area immediately south of Lusher Avenue in Elkhart, Indiana. At the time of this investigation, it was believed that the contamination in this area was independent of the Gemeinhardt contamination.

The Elkhart County Health Department (ECHD) was notified, and began their own investigation of the area. A review of ECHD records reveal that their investigation was conducted from 1987 to 1989. The investigation was limited to an area bordered by State Road 19 on the west, Avalon Street to the east, Lusher Street to the south, and the St. Joseph River to the north. The ECHD sampled 145 wells in this area. The ECHD identified 103 wells that were found to contain elevated levels of 1,1,1-trichloroethane (TCA) and trichloroethylene (TCE). Subsequently, the ECHD requested assistance from the U.S. EPA.

In late 1987, the On-Scene Coordinator of the U.S. EPA, Emergency Response Program, in conjunction with the EPA's Technical Assistance Team (TAT), began an investigation into the

newly discovered ground water contamination. As a result of the investigation, the U.S. EPA initiated a mitigative action at the LSGWC area to alleviate threats to human health posed by the volatile organic compound (VOC) contamination of residential and business water wells. LSGWC was entered into CERCLIS as "Lusher Street Groundwater Contamination". EPA later modified the name to Lusher Street Ground Water Contamination, as U. S. EPA considers the term ground water to be two separate words. It should be noted that Lusher Street is actually Lusher Avenue. All references to Lusher Street apply to Lusher Avenue throughout this entire report.

From November 13 to December 9, 1987, U. S. EPA installed twelve carbon filtration systems in residences and businesses previously identified as having wells contaminated with concentrations of VOCs within 50 percent of the U.S. EPA removal action levels (RALs). On December 2 and December 31, 1987, U. S. EPA provided two residences with wells contaminated with VOCs above the U. S. EPA RALs with a hook up to the Elkhart City Water Supply. From August 18 to August 31, 1988, five additional residences and businesses were provided with City Water hookups. In addition, 19 residences downgradient of potential contamination migration were provided with carbon filtration

units. This action was completed in August 1988.

After U.S. EPA's mitigative action, the Indiana Department of Environmental Management (IDEM) provided municipal water hook ups to all residents, except one, that were supplied carbon units by U.S. EPA. No municipal hook ups were provided to the resident at 1619 Avalon Street because no municipal water main was in close proximity.

Further investigations by U.S. EPA revealed that Walerko Tool and Die (Walerko) was identified as one of the potential responsible parties for the ground water contamination around Lusher Street. In 1993, U. S. EPA filed a Cost Recovery Consent Decree with Walerko.

From the 1980's to present, IDEM has been conducting operation and maintenance (O&M) activities on the filtration system at 1619 Avalon Street. The site has come to be known as the Lusher Street site because it was assumed that the source of the TCE was migrating from a facility on Lusher Avenue.

In October 2005, the raw untreated water at the 1619 Avalon Street was resampled by IDEM staff to determine if O&M activities still needed to be conducted there. Sample results revealed that the TCE levels were 700 μg/l.

In April 2006, a review of Elkhart's sewer and water

records, conducted by Elkhart's municipal water staff at IDEM's request, indicated that many residents still utilized their own private wells for drinking water in the area of concern. These wells are located up, down, and side gradient from the contaminated well at 1619 Avalon.

SECTION III

FIELD OBSERVATIONS SAMPLING PROCEDURES

3.1 Introduction

This section outlines the sampling procedures and observations of LSGWC.

3.2 Site Reconnaissance and Potential Source Identification

Reconnaissance site visits were conducted on September 23, 2006 and from October 24 through November 2nd, 2006. Inspection of the site revealed the following significant observations:

1) LSGWC lies in a light industrial/residential setting.
2) Numerous businesses lie on and around the perimeter of LSGWC.
3) A railroad bisects the LSGWC area.
4) Many of the businesses lie directly adjacent to residential properties

Some properties historically have had more than one (1) business occupy their location. During the reconnaissance, Site Investigation staff documented facilities that lie in the Lusher Street area that could be the source of the ground water contamination. The facilities along with a brief description of their business activities include the following:

Gaska Tape
1810 W. Lusher

Gaska Tape is a poly vinyl chloride (PVC) foam manufacturer. The company began operations in 1965. Gaska Tape is a manufacturer of closed-cell foams and adhesive tapes (PVC Foam, Polyester Foam and Gaska Hi Bond® Adhesive Tapes). Gaska provides versatile solutions in gaskets for sealing, cushioning, insulating and protecting. They design and supply custom foams and adhesive tape products, with modifications or enhancements developed for a wide variety of applications.

Gaska Tape's products are used for multiple applications among a cross section of industries, including automotive, industrial, construction, heating and air conditioning, Weather stripping, Recreational Vehicle (RV), Electronics and Medical.

TCE has been used at the facility as a support solvent for suspending silicone as a release coating agent. The company also uses oil base plasticizers in its manufacturing processes. The company utilizes the services of D&B Environmental Services to dispose of its waste material. The facility was formerly a RCRA large quantity generator of hazardous waste but is now a small quantity generator.

The facility uses a regenerative thermo oxidizer that burns VOCs before the VOCs are released into the air. A dry pond is located in a wooded area north of the plant building and captures any runoff from the facility. This pond is not lined.

Flexible Foam Products Inc.
1900 W. Lusher

The company was originally known as Indiana Foam. The company currently manufactures polyurethane foam and is a supplier of foam and foam products for residential and commercial applications. The materials are used in carpet cushioning, home furnishings, and bedding. The company serves the automotive industry with a variety of foam products for both safety and comfort.

The foam is produced in loaves that measure 3-6 feet high, 125 feet long, and about 6 feet wide. Toluene diisocyanate is used to manufacture the foam. Other substances used to manufacture the foam include CO_2 (which has replaced methylene chloride),

colorants, fire retardants, ethyl acetone naphtha, tin, and Poly All which is supplied by Bayer. Chlorinated solvents are not currently used at the facility.

A dry pond is located in a wooded area north of the plant building and captures any runoff from the facility. The east side of the facility is graveled where the loading docks are located.

Action Auto Salvage
1750 W. Lusher

The facility accepts salvageable vehicles and sells them for parts. At times the facility sells the entire vehicle to scrap yards.

The company started operations three (3) years ago. Other businesses that occupied the property prior to Action Auto Salvage include Fidler Concrete Company, BFI Waste Management, First Step Finance, and an automotive repair shop.

Substances currently used on site include antifreeze and hydraulic oil (15-40 Shell Rotela). A company representative stated that no degreasers or cleaners are used.

Genesis Distributor
1556 W. Lusher

The facility is a warehouse for vinyl and aluminum siding. The facility is on municipal water. Cleaners or solvents are not currently handled at this location.

Bristol Auto Parts West
1422 W. Lusher

The business primarily sells automotive parts and accessories. There is no current use of solvents or cleaners at this business. This business has been at this location for the past 28 years. This business operated a small machine shop more than 18 years ago. The site representative had stated that the Auto Trade Center was once located adjacent and to the east of their property approximately 5-6 years ago. Oil and antifreeze were observed to have been dumped on the ground at that facility.

Patrick Industries
1926 W. Lusher

The business is a wood process facility. Dry wall (sheet rock) is stored in their warehouse. Items manufactured include hollow wood doors and kitchen cabinet doors. Sawing and sanding are the primary operations conducted at this facility. The facility uses water base glues. The facility also utilizes a wood dust collection system in its manufacturing process. Some recreational vehicle (RV) antifreeze and hydraulic oils are also used on site. The facility is on municipal water.

Homan Lumber
1650 W. Lusher

The facility operates a retail lumber yard and building supply and sawmill for the mobile home industry on approximately nine (9) acres of land adjacent to a railroad spur. Homan Lumber is a supplier of lumber and commodity building materials throughout northern Indiana, and southern Michigan. This facility has been at this location since 1965. The facility uses gas, diesel, and hydraulic fluids. A concrete containment structure surrounds the gas and diesel fuel tanks. The company employs about 50 people and utilizes their own private water for drinking.

Jason Industries
1500 W. Lusher

The company manufactures fiberglass truck cap and lids. The facility has been in operation at this location since 1988. Fiberglass resin, auto paint, paint solvents, cleaning solvents, and acetone, are used in the manufacturing process. Polyester resin is used for truck caps. No chlorinated solvents are reportedly used on site. The facility is a RCRA small quantity generator. There are no wells on site.

WeVac Plastics
2401 South 17th Street

WeVac Plastics was founded in 1989 to service the recreational vehicle (RV) industry. Since its inception WeVac Plastics has grown into a multifaceted company working with diverse companies, providing custom thermoforming, silk-screening,

secondary assembly, five (5) axis CNC trimming, and much more. The company has its own in-house tooling shop, product development department, and pattern cutting five (5) axis CNC. The facility consists of a 73,000 square foot building and 40 non-union employees. Materials that WeVac Plastics handles are ABS, high density polytetrafluoroethylene, high impact polystyrene, polycarbonate, and laminated foils. (i.e. brushed aluminum, marble, wood grain).

The company uses a two (2) epoxy glue that contains MEK and acetone. Chlorinated solvents are not or were not known to have been used at this property. The company utilizes the city municipal water system for drinking water. It should be noted that company staff had just extinguished a fire prior to the inspection.

City of Elkhart/Highway Garage
2421 S. 17th.

This facility is owned by the city of Elkhart and is considered a municipal maintenance garage. The facility houses street maintenance equipment, salt storage, and cold patch material. Radiator fluid, cleaning fluids, soaps, DeIce 55, oils, and beet juice are utilized at this garage. The property was once used by the Skyline Mobile Home Manufacturing Company. Chlorinated solvents are not currently used here. Soil material has been dumped along the southeast sector of the property.

B-D Industries
1715 Fieldhouse

The facility processes metal castings for the aerospace industry. The types of castings that the company works on include landing gears, brake parts, and other parts for 747s, 737s, and other planes. Parts are cleaned and put in tanks of sulfuric acid as part of a plating/anodizing process (as the company representative stated: The company changes the molecular structure of aluminum to aluminum oxide for corrosion protection.) Sulfuric acid, nitric acid, sodium hydroxide, HCL, MEK, and TCE are liquids that the company utilizes in their processing. All hazardous wastes are sent off by Safety Klean twice a year. The company also uses some hydraulic oils. The company has been in operation since 1979.

Forest River, Inc.
1800 W. Hively

Forest River is a manufacturer of Class A diesel motor homes. This business has been at this location since 2003. The chassis, engines, and transmissions are purchased and Forest River, Inc. installs the floors, walls, ceilings, and all furnishings (which includes installing fiberglass laminates, electrical wiring, appliances). Some aluminum welding is performed in this process. The company applies adhesives, carpeting, and conducts some painting activities. Waste from the company operations includes paint solvents, antifreeze, and oils. All wastes are handled by D&B Environmental. Chlorinated solvents are not or were not known to have been used at this property. The property was utilized by Skyline Mobile Home Inc. prior to Forest River Inc. operations.

Miguel Car Audio
2111 17th Street

This facility is a car radio installer. The company also details car. Shampoos and detergents are used. Chlorinated solvents are not used or were not known to have been used at this property. IDEM staff sampled the water from this well and the water was found to contain TCE above MCLs.

Sturgis Metal
AKA Elkhart Metal
1514 W. Lusher

The company is a metal recycling facility. The facility accepts and purchases scrap ferrous and nonferrous metal. The facility also utilizes the worlds' largest metal shredder, the "Mega Shredder". This metal shredder is capable of shredding hundreds of automobiles in one (1) hour and separating the end product into ferrous and nonferrous components for sale to processors who recycle it into steel, aluminum, and copper products. The facility utilizes hydraulic oils, diesel fuel, antifreeze, transmission fluid and non-chlorinated solvents (supplied by Safety Kleen) for a parts washer. Most of these fluids are stored in the maintenance building. All generated waste is handled by Safety Klean. The facility does not use chlorinated solvents. Although the facility uses the municipal water for drinking water, there are three (3) monitoring wells on site. The company representative did not know the screened intervals

of the monitoring wells. In early September 2006, IDEM's enforcement staff collected soil and auto fluff samples from this facility. Cis 1, 2 Dichloroethylene was detected at 1.6 ug/l in only one of the soil samples collected.

Elkhart Hinge
1839 W. Lusher

The facility has been operating at this address since 1949. The company manufactures hinges for RVs, doors, bolt seats, barns, etc. Some tool and die, lathes, and press operations are conducted at this facility. Mineral spirits, various lubricants (mostly water soluble), and coolants are utilized on the property. The site representative stated that no wastes are generated. All oils are naturally dissipated. The facility has no on-site well. Drinking water is obtained from the municipal water system.

Colbert Packaging
1511 W. Lusher

The company is a cardboard manufacturing company that prints and folds cartons for various products. Other services the company performs includes structural design and CAD/CAM sample making, full prepress, in-house sheeting, printing, die making, die cutting, gluing and windowing. Approximately 30% of the boxes are manufactured for the food industry, 50% for hardware, and 20% for miscellaneous goods (ie. computer software). The facility uses 1,2,4 trimethyl benzene and 1,3,5 trimethylbenze based solvents to clean the ink on the rockers. Isopropanol anhydrous and some oils are also in the manufacturing process. The company utilizes a baghouse dust collector to capture paper dust. Waste is handled by HIMCO and D&B Environmental. This company has been at this location for the past 25 years. The company uses the municipal water system for drinking water.

Atlas Chem-Milling
Division of Atlas Die
1627 W. Lusher

The company specializes in flexible dies for reciprocating or rotary application for hundreds of companies in a number of industries. The company etches steel for labels and boxes. Dies

are manufactured to cut out various materials for converters. Converters make paper into types of products. The finish steel is cleaned, laminated, etched, and coated. Silver halide is applied to produce specified images on the steel.

Chemicals used include acetone base paint, toluene, and acids. Hazardous wastes are handled by Dynecol (part of PVS Chemical in Detroit), and Univar based in Chicago. The company also utilizes its own water treatment facility which treats all water before it discharges it to the municipal waste water treatment plant.

It should be noted that large crevices were observed in the floor in parts of the plant building as a result of acids leaking from vats. Drinking water is supplied by the city municipal water system. The company has several monitoring wells on the property.

Cullip Industries
1900 Fieldhouse

Cullip Industries, Inc. was founded in 1959 as a small tool & die job shop as Cullip Tool & Die Inc. In 1982, the company invested in CNC equipment. The machining side of the business grew to the point that in 1990 a machining division was started. With many pieces of CNC equipment, networked computers, internet capabilities, shop management software, and four years of machining experience, the company offers a competitive solution for machining needs. The company had served the following industries with stamping dies alone: transportation, construction, towing, seating, recreational vehicle, and security. The company also specializes in blanking, pierce & cutoff, and progressive dies. Water soluble cutting oil (including HocutV4000) and vegetable base coolants are used in the machinery process. No degreasers are used. The company uses Amosol for cleaning purposes. The company also uses a parts washer. Wastes are handled by Usher Oil (formerly Berreth Oil) based out of Detroit, Michigan. The municipal water system supplies drinking water to the facility.

Leroy's Body Shop
1918 Markle

The facility is an auto body repair shop. The facility has been at this location since 1994. Chemicals used include paint, paint reducers, orange plus, brake fluids, oil, transmission

fluids, and antifreeze. Chlorinated solvents are not used or were not known to have been used at this property. Before 1994, a business at this location had welded pedestals on chassis' for conversion vans.

A&M Systems
1845 Fieldhouse

This facility manufactures bus doors and the machinery that opens them. The site representative was not available for an interview or tour.

Meca Corporation
1805 W. Lusher

The facility operates a machine shop. The company manufactures stems for cameras, shafts for motors, and swing arm brackets for some machines. Mills, lathes, and cutters are some of the machines used at this facility. Semi synthetic coolants, cutting oils, mineral spirits, hydraulic oils, and some paints are used in the manufacturing process. Chlorinated solvents are not used or were not known to have been used in the processes since 1996. The services of Polar Environmental Services, located in Elkhart, Indiana, are utilized for the disposal of the company's waste materials. This facility has operated at this location since 1996. Prior to 1996, Gaska Tape utilized the property for their operations.

Quad 4 Plastics
1840 Borneman

The company manufactures custom injecting moldings. Items made include molded plastic parts for keyboards, head sets, toys, and recreational vehicles (RVs). Chlorinated solvents are not used or were not known to have been used at this property. The company uses hydraulic oils. The facility utilizes a private well for drinking water. Waste oil is picked up by D&B Environmental Service.

Fowler Custom Paint
1812 Borneman

This facility paints ambulances. The old paint is stripped from the body of the ambulances and any body dents are repaired. The

company uses paint, reducers, and bondo. Degreasers and chlorinated solvents are not used or were not known to have been used at this property.

Meadowood Gardens, Inc.
1817 Markle

This is a landscape company. Chlorinated solvents are not used or were not known to have been used at this property. No site visit was conducted. Site representative was not available at time of this visit.

Smiths Picture Framing
2317 18th Street

This business frames pictures. Wood, metal, and glass are used. Chlorinated solvents are not used or were not known to have been used at this property. This business utilizes a private well for drinking water.

Walters Auto
1903 Leininger

This facility is an automobile repair shop. Oil, degreasers, paint, paint reducers, antifreeze, transmission fluids, and other car fluids are utilized. Chlorinated solvents are not used or were not known to have been used at this property. This facility utilizes a private well for drinking water.

Howard's Towmaster
2000 Leininger

This business is a towing company. Cleaning fluids and chlorinated solvents are not used or were not known to have been used at this property. The company has been in business since 1960.

Weed Patrol
1922 Fieldhouse

This facility manages lakes and ponds. Herbicides and

algaecides are used. The facility does not utilize and is not known to have used any chlorinated solvents.

Custom Woodwinds
1545 W. Lusher

The sign on the facility building states that it is a manufacturer of limited production professional quality flutes and piccolos. This facility was closed at the time of the site visit. The phone number listed on the sign has been disconnected.

Franklin Auto Sales
1555 W. Lusher

This facility is an automobile repair shop. They specialize in brakes, suspension, and custom exhaust work. Oil, degreasers, antifreeze, transmission fluids, and other car fluids are utilized. Chlorinated solvents are not used or were not known to have been used at this property.

Elkhart Wash, Inc.
2115 17th. Street

This facility washes and details cars. The facility is on municipal water. Only soap and other cleaning fluids are used. Chlorinated solvents are not used or were not known to have been used at this property.

Sutong
1700 W. Lusher

This facility mounts tires only. The only substance used is "Green Clean" (a non solvent water base cleaner used to clean tires prior to mounting).

Millmark Enterprises Inc.
1935 Markle

The company specializes in steel fabrication and has been in business for the past seven (7) years. The company welds and cuts sheet metal to produce various products for the recreational vehicle (RV) industry. Products include television brackets and cross members for the RV. According to the plant

manager, hydraulic oil and mineral spirits are used at this facility. Waste oils are handled by Oil Recyclers stationed in LaPorte, Indiana.

Former Dump
Area south and west of 1520 Albany Street

Not much is known regarding this dump site. This dump was brought to IDEM's attention while sampling the drinking water at 1520 Albany Street. According to the resident at 1520 Albany Street, a car is buried in this dump. An inspection of the dump by Site Investigation staff revealed miscellaneous metal debris throughout the site. An underground culvert, originating north of the Conrail Railroad tracks, was found discharging a grayish colored water onto the site. A three (3) foot deep pit, revealing a coal/flyash type material, was observed in the center of the site.

Freshwater Taxidermy
1910 Borneman

This facility was closed. The sign on the facility building indicates that it offers taxidermy services. The phone number shown on the sign has been disconnected.

Advance Communications Systems
1925 Borneman

This business has been in business for over a decade. This company services and installs phone systems. Chlorinated solvents, oils, or cleaning fluids are not used or were not known to have been used at this property. The company only stores wiring and electronic components at this facility until needed at a job site.

Pentacle Seating
1803 Fieldhouse

There is no sign on the outside of this building to indicate the name or nature of the business. During an attempt to conduct a site visit at the facility, an employee stated that the name of the business is Pentacle Seating and gave IDEM staff a phone

number to call to arrange a site visit or interview. The phone number was found to have been disconnected.

RK Precision Machine
2220 19th Street

The business is a tool and die operator. The company makes press brakes dies. Water based coolant fluids are used. Chlorinated solvents are not used or were not known to have been used at this property. An environmental firm replaces hydraulic fluids from the machines. The facility utilizes a private well for drinking water.

Holland Metal Fabricating
1550 W. Lusher

The company is a steel manufacturer for the mobile home industry. The company has been in business for over 10 years. This facility produces frames, cross members, and front ends. Bed rails for pickup trucks are also manufactured. The company utilizes the services of Michiana Industrial Lubricants to change out spent oils within their machines. Municipal water is used for drinking water. The facility utilizes a septic system. Only soaps are used. Site representative indicated that chlorinated solvents are not used or not known to have been used in their processes.

Walerko Tool and Engineering Corporation
1935 W. Lusher

This business has been in operation since 1951. The facility is a registered ISO9002 tool and engineering company. Walerko Tool & Engineering has produced a wide array of tools, dies, jigs, fixtures, gauges and special machines for some of America's leading industries; most notably heavy off-road equipment, automotive, marine, aerospace and machine tool. The company can design and engineer products to the clients' specification. Their equipment offers a wide range of size capabilities with state of the art programming, engineering, grinding and CNC machine options. The facility is currently a conditionally exempt small quantity generator. An inspection along the eastern sector of the facility revealed dark oil stained soils beneath

several dumpsters containing scrap metal. No inside inspection was conducted.

In 1993, U.S. EPA entered into a Consent Decree with Walerko Tool and Engineering Company. The company was cited as a potential responsible party for ground water contamination in the area. The consent decree was entered to recover U.S. EPA's response costs for a removal action which provided alternative drinking water supplies to affected businesses and residences.

Elkhart Plating
1913 Fourteenth

Founded 1919, Elkhart Plating specializes in alkaline non-cyanide zinc rack and barrel plating. The present facility has been at this location since 1953. The facility plates ladder parts, machine parts, screws, nuts, bolts, fasteners, drum rings and plugs, and RV parts including slide pit portion of recreational vehicle (RV) kitchens. Chemicals used include sodium hydroxide, zinc metal, hydrochloric acid, nitric acid, sulfuric acid, and some soaps and detergents. Cyanide has not been used at this facility since 1989. The company does not use chlorinated solvents or has not been known to have used chlorinated solvents. Drinking water is supplied by the municipal water system. Water used for production is acquired by an onsite private well. The facility is connected to the municipal sewer system.

Jo Ann's Bar and Grill
1915 Borneman

This facility is a restaurant. No onsite visit was conducted.

Heinnies Restaurant
1743 W. Lusher

This facility is a restaurant. No onsite visit was conducted.

Vacant Building
1706 W. Lusher

Vacant Building
1800 Fieldhouse

Vacant Building
1900 Borneman

Refer to the Business Location Map, Appendix O-1, for an aerial location of the facilities discussed above.

3.3 Ground Water Sampling

Five (5) sampling events were conducted as part of this investigation. The dates, the number of samples, identification of samples, and any other information regarding the sampling events are discussed below.

On June 13 and 14 of 2006, Ken McDaniel, IDEM Staff, sampled residential wells west and north of the 1619 Avalon residence. This area is denoted as A on the Lusher Avenue Site Map Showing Three Sampling Areas, Appendix A. The sampling was conducted to determine if additional wells have become contaminated with volatile organic compounds as addressed in Section II of this report. All necessary trip blanks, duplicate samples, and background samples were obtained. No log or other record of screened interval or depth is available for most wells. All wells that were sampled are believed to be screened in the unconsolidated aquifer and this aquifer is believed to extend to less than 200 feet below ground

surface. Fourteen (14) water samples were collected. The samples are identified LQ3542 through LQ3555. The Ground Water Sample Location and Comment Table for sample event 1, page 3-22, depicts the sample number, location of sample and any comments pertaining to the sample. The residential well sampling was conducted in an area bordered to the north by the St. Joseph River, to the west by Nappanee Street, to the south by Conrail railroad tracks, and to the east by Flake Street. Refer to the Sample Location Map for Sample Event #1, Appendix B-1, for a location of each sample that was collected.

Analysis of the well water samples obtained during the June sampling event revealed more elevated levels of volatile organic compounds. As a result, a second sampling event was conducted to determine if more significant ground water contamination was present south of the Conrail railroad tracks.

On August 16, 2006, Ken McDaniel, Mark Jaworski, and Tim Johnson (IDEM staff) sampled residential wells in an area bordered on the north by the Conrail railroad tracks, on the west by Nappanee Street, Leininger Street to the south, and 17th Street to the east. This area is denoted as B on the Lusher Avenue Site Map Showing Three Sampling Areas, Appendix A. A total of 29 water samples were obtained. All necessary trip blanks, duplicate samples, and background samples were obtained. No log

or other record of screened interval or depth is available for most wells. All wells that were sampled are believed to be screened in the unconsolidated aquifer and this aquifer is believed to extend to less than 200 feet below ground surface. The samples are identified as LQ3412 through LQ3427, LQ3431, LQ3432, LQ3435, and LQ3437 through LQ3446. The Ground Water Sample Location and Comment Table for sample event 2 is located on page 3-23, depicts the sample number, location of sample and any comments pertaining to the sample. Refer to the Sample Location Map, Appendix C-1, for Sample Event #2 for a location of each sample that was collected.

A review of the August sampling results also revealed that more residential wells along with some business wells were contaminated with elevated levels of volatile organic compounds. Water analysis for the June and August sampling events were performed by State of Indiana approved laboratories. U.S. EPA was informed of the June and August sampling events and gave permission to IDEM's Site Investigation Staff to conduct another sampling event utilizing U.S. EPA's Contract Laboratory Program.

On September 12, 2006, Mark Jaworski (Project Manager), Kevin Heron, Paul Geisting and Tim Johnson, sampled residential wells in an area located east and northeast of the August 2006 sampling event. This area is denoted as C on the Lusher Avenue

Site Map Showing Three Sampling Areas, Appendix A. The sampling was conducted in an area bordered by Lusher Avenue on the south, Oakland on the east, 17th on the west, and Bridge Street on the north. The purpose of this sampling event was to determine if any private wells were contaminated east of the August sampling event area. All necessary trip blanks, duplicate samples, and background samples were obtained. No log or other record of screened interval or depth is available for most wells. All wells that were sampled are believed to be screened in the unconsolidated aquifer and this aquifer is believed to extend to less than 200 feet below ground surface. A total of seventeen samples were collected. The samples are identified as E2NX0 through E2NX4, E2NY0, E2NY6 through E2NY9, E2NZ0 through E2NZ2, and E2NZ6 through E2NZ9. The Ground Water Sample Location and Comment Table located on page 3-24, depicts the sample number, location of sample and any comments pertaining to the sample. Refer to the Sample Location Map, for Sample Event #3, Appendix D-1 for a location of each sample that was collected.

On December 5, 6, and 7, 2006, Mark Jaworski, (Project Manager) met with Tim Johnson, Doug Fisher, and Ken Mc Daniel, Mindy Baker, Tom Doreff, and Bill Giles (IDEM team members). The purpose of this sampling event was to confirm the presence

of elevated levels of volatile organic compounds in all wells where contaminants were detected in the previous three sampling events. Refer to the Lusher Avenue Site Map showing three sampling areas, Appendix A, for a detailed perspective of where the first three sampling events occurred. All necessary trip blanks, duplicates, and background samples were obtained. No log or other record of screened interval or depth is available for most wells. All wells that were sampled are believed to be screened in the unconsolidated aquifer and this aquifer is believed to extend to less than 200 feet below ground surface.

A total of 54 samples were collected. The samples are identified as E2P00 through E2P19 and E2P21 through E2P54. The Ground Water Sample Location and Comment Table, pages 3-25 and 3-26, depicts the sample number, location of sample and any comments pertaining to the sample. Refer to the Sample Location Map for Sample Event #4, Appendix E-1, for a location of each sample that was collected.

On December 13th, 2006, another sampling event was conducted. The main purpose of this sampling event was to obtain residential water samples that were not obtained during the December 5th, 6th, and 7th sampling. No log or other record of screened interval or depth is available for most wells. All

wells that were sampled are believed to be screened in the unconsolidated aquifer and this aquifer is believed to extend to less than 200 feet below ground surface. A total of five (5) samples were obtained. The samples are identified as E2P61, E2P62, E2P64, E2P66, and E2P67. The Ground Water Sample Location and Comment Table for events 4 and 5, pages 3-25 and 3-26, depicts the sample number, location of sample and any comments pertaining to the sample. Refer to the Sample Location Map for sample event #5, Appendix E-1, for a location of each sample that was collected.

3.3 Sample Procedures and Analytical Results

All ground water samples collected from the residential wells during all (5) five sampling events were obtained by first purging the well (allowing the well to run for 15 minutes) and then allowing the water to flow directly into the samples jars from the spigot. Latex surgical gloves were worn and discarded between the collection of each sample.

The laboratory results from the sampling of Lusher Street Ground Water Contamination have been determined to be acceptable for use and meet the criteria contained in the Contract Laboratory Program (CLP) for those samples collected during sample events 3, 4, and 5. The results have been found to

be acceptable for use under IDEM quality criteria for sample events #1 and #2. Refer to Analytical Results in Appendix N.

Any exceptions to the acceptance of this data will be identified in the QA/QC memorandums by the U.S. EPA chemists and IDEM chemists. Refer to Appendices K through N.

3.4 Summary Tables

Volatile organic compounds analyses were performed on the ground water samples. Key Findings Lists for all five (5) sampling events summarizing contaminant concentrations detected three (3) times above background are found in Appendices P through S. Refer to Appendices K through N for a complete list of the chemical analysis data provided by the laboratory.

Sample Location and Comment Table - Sample Event 1				
Sample_No	Sample_ID	Postal Code Address	Comments	Duplicate_Sample_ID
	LQ3542	1520 Okema St	Sample collected from kitchen sink	
	LQ3544	1440 S Nappanee St	Sample collected from hand washing sink	
	LQ3545	1526 Okema St	Collected from hydrant on west side of home (outside)	
	LQ3546	1430 Waurika St	Sample collected from outside hydrant on east side of houses	
	LQ3547	1338 Laramie St	Sample collected from outside hydrant on east side of home	
	LQ3548	1532 Laramie St	Sample collected from hydrant on north side of house	
	LQ3549	2200 Pennsylvania St	Sample collected from hydrant on west side of home	
	LQ3550	1407 Waurika St	Sample collected from hydrant on east side of home	
	LQ3551	1228 Waurika St	Sample collected from hydrant on east side of home	
	LQ3552	1218 Waurika St	Sample collected from hose attached to well	
	LQ3553	1218 Waurika St	Sample collected from rubber hose attached to well	LQ3552
	LQ3554	1212 Waurika St	Sample collected from outside hydrant on southeast side of home	
	LQ3555	2215 W Indiana Ave	Sample collected from outside hydrant on west side of house	
	LQ3556	1510 Flake St	Sample collected from garden hose run through window from laundry room	
	LQ3557	1529 Flake St	Sample collected from hydrant on north side of home	
	LQ3558	1527 Flake St	Sample collected from hydrant on north side of home	
	LQ3559	1511 Flake St	Sample collected from hydrant on north side of home	
	LQ3560	1665 W Franklin St	Sample collected from cold water in bathroom sink	
	LQ3561	2001 W Franklin St	Sample collected from drinking water well from hydrant on east side of building. Facility has another well for irrigation	
	LQ3562	2120 W Franklin St	Sample collected from hydrant inside building on east side	
	LQ3563	2031 W Franklin St	Sample collected from hydrant on north side of business	
	LQ3564	2000 Vermont St	Sample collected from hydrant on south side of home	
	LQ3565	1333 El Reno St	Sample collected from hydrant on west side of home	
	LQ3566	1333 El Reno St	Sample collected from outside hydrant on west side of home	LQ3565
	LQ3567	1900 W Indiana Ave	Sample collected from hydrant on north side of home	
	LQ3543	30636 Old US 20	Sample collected from outside hydrant on north side of building - Background ground water sample	
	LQ3568		Trip blank	

Sample Location and Comment Table - Event 2				
Sample_No	Sample_ID	Postal code address	Comments	Duplicate_Sample_ID
	LQ3412	1817 Markle Ave	Sample collected from shower	
	LQ3413	2317 18th St	Sample collected from sink in framing room	
	LQ3414	1840 Borneman Ave	Sample collected from hydrant on south side of building	
	LQ3415	2418 19th St	Sample collected from garden hose fished under overhead door	
	LQ3416	2033 W Borneman Ave	Sample collected from outside hydrant on east side of home	
	LQ3417	1710 Markle Ave	Sample collected from bathroom sink	
	LQ3418	1800 Markle Ave	Sample collected from bathroom sink	
	LQ3419	1810 Markle Ave	Sample collected from outside hydrant on south side of house	
	LQ3420	1819 Markle Ave	Sample collected from outside hydrant on east side of home	
	LQ3421	1822 Markle Ave	Sample collected from bathroom sink	
	LQ3422	2300 17th Ave	Sample collected from outside hydrant on east side of home	
	LQ3423	2111 17th St	Sample collected from bathroom sink	
	LQ3424	2111 17th St	Sample collected from bathroom sink	LQ3423
	LQ3425	2220 19th St	Sample collected in bathroom	
	LQ3427	1825 Leininger Ave	No noticeable color, odor or taste. Unknown depth, age. Taken from outside faucet west side of house.	
	LQ3431	1741 Fieldhouse Ave	Sample collected from outside hydrant on south side of home	
	LQ3432	1645 Fieldhouse Ave	Sample collected from outside hydrant on east side of home	
	LQ3435	1800 Leininger Ave	Taken from outside faucet east side of house	
	LQ3437	1811 Leininger Ave	No noticeable problems except lime and little rust	
	LQ3438	1816 Leininger Ave	No noticeable color or odor problems.	
	LQ3439	1839 Borneman Ave	No noticeable odor or color. Well behind house in pit. Taken from outside faucet east side of house.	
	LQ3440	1807 Borneman Ave	Water smells like garbage, no color problems. House over 50 years old.	
	LQ3441	1903 Leininger Ave	No noticeable odor, taste, quality problems - Background ground water sample	
	LQ3442	1831 Leininger Ave	No noticealbe color, odor. Unknown depth & age	
	LQ3443	1814 Leininger Ave	No noticeable odor, color, etc. Taken from behind house unsoftened. Faucet that is used to water plants.	
	LQ3444	1814 Leininger Ave		LQ3443
	LQ3445	1807 Leininger Ave	No smell, odor, etc.	
	LQ3446		Trip blank	
	LQ3426		Trip blank	

Sample Location and Comment Table - Event 3				
Sample_No	Sample_ID	Postal Code Address	Comments	Duplicate_Sample_ID
DW1	E2NX0	1421 Lamar Ct		
DW2	E2NX1	1913 14th St	Clear, odorless	
DW3	E2NX2	1519 Elliston Ave		
DW4	E2NX3	1519 Elliston Ave		E2NX2
DW5	E2NX4	1520 Albany St		E2NZ2
DW7	E2NY6	1306 Concord Ave	Background ground water sample	
DW8	E2NY7	1308 W Hubbard Ave		
DW9	E2NY8	1911 13th St		
DW10	E2NY9	2033 13th St	Background ground water sample	
DW11	E2NZ0	1319 Concord Ave	Background ground water sample	
DW12	E2NZ1	1334 Concord Ave		
DW13	E2NZ2	1520 Albany St		
DW14	E2NZ6	1309 Concord Ave	No noticeable color, odor problems	
DW15	E2NZ7	1320 Concord Ave	No noticeable smell taste possibly 14' deep.	
DW16	E2NZ8	1213 Concord Ave		
DW17	E2NZ9	1307 Hubbard		
	E2NY0		Trip blank	

Sample Location and Comment Table - Event 4/5 combined					
Sample_No	Sample_ID	Postal Code Address	Comments	No_of_People	Duplicate_Sample_ID
DW1	E2PO0	2317 18th St	Sample Collected from utility sink	1	
DW2	E2PO1	1619 Avalon St	Sample collected in basement puron to carbon filter	0	E2PO3
DW3	E2PO3	1619 Avalon St	Sample collected in basement puron to carbon filter	0	E2PO1
DW4	E2PO4	1839 Borneman Ave	No noticeable odor or color. Well behind house in pit. Taken from outside faucet east side of house.	2	
DW5	E2PO5	1807 Borneman Ave	Water smells like garbage, no color problems. House over 50 years old.	2	
DW6	E2PO6	2033 Borneman Ave	Sample collected from outside hydrant on east side of home - Background ground water sample	0	
DW7	E2PO7	1665 W Franklin St	Sample collected from cold water in bathroom sink	2	E2P46
DW8	E2P46	1665 W Franklin St	Sample collected from cold water in bathroom sink	0	E2PO7
DW9	E2PO8	1840 Borneman Ave	Sample collected from hydrant on south side of building	0	
DW10	E2PO9	1544 Avalon St	Sample collected at kitchen sink	3	
DW11	E2PO2	1544 Avalon St	Sample collected at kitchen sink	3	E2PO9
DW12	E2P47	2215 W Indiana Ave	Sample collected from outside hydrant on west side of house	0	
DW13	E2P48	1825 Leininger Ave	No noticeable color, odor, or taste. Unknown depth, age. Taken from inside bathroom sink.	4	
DW16	E2P11	1645 Fieldhouse Ave	Sample collected from outside hydrant on east side of home.	1	
DW19	E2P14	1811 Leininger Ave	No noticeable problems except lime, little rust-sample taken from kitchen sink (no softner)	3	
DW20	E2P13	1800 Markle Ave	Sample collected in bathroom at sink	2	
DW21	E2P17	1527 Flake St	Sample collected from hydrant on north side of house. Sample from kitchen sink, shallow well; beneath house in basement	2	
DW22	E2P10	1527 Flake St	Sample collected from hydrant on north side of house	2	E2P17
DW24	E2P16	1529 Flake St	Sample collected from hydrant on north side of home	0	
DW25	E2P15	1333 El Reno St	Sample collected from hydrant on west side of home - 100' well	3	
DW26	E2P19	1715 Fieldhouse Ave	Sample collected from bathroom sink	0	
DW27	E2P21	1816 Leininger Ave		1	
DW28	E2P23	1822 Markle Ave	Sample collected from bathroom sink	2	
DW29	E2P49	1913 14th St	clear, odorless	0	
DW32	E2P58	2418 19th St	Sample collected from bathroom sink	1	
DW33	E2P26	1650 W Lusher Ave	Employees say they are connected to city water, spoke with owner - get sample, no well on-site	21	
DW34	E2P50	1306 Concord Ave	Background ground water sample	4	
DW35	E2P24	1519 Elliston Ave		1	
DW36	E2P40	2031 W Franklin St	Sample collected from hydrant on north side of business	0	
DW37	E2P41	2001 W Franklin St	Sample collected from drinking water well from hydrant on east side of building. Facility has another well for irrigation.	9	
DW38	E2P42	2120 Franklin St	Sample collected from hydrant inside building on east side	0	
DW39	E2P43	1526 Okema St	Collected from hydrant on west side of home (outside)	2	
DW40	E2P44	1520 Okema St		2	
DW41	E2P51	1520 Okema St		2	E2P44
DW42	E2P45	2111 17th St	Sample collected from bathroom sink	0	

Sample Location and Comment Table - Event 4/5 combined					
Sample_No	Sample_ID	Postal Code Address	Comments	No_of_People	Duplicate_Sample_ID
DW43	E2P52	1511 Flake St	Sample collected from kitchen sink	8	
DW44	E2P27	1814 Leininger Ave	No noticeable odor, color, etc. Taken from behind house, unsoftened. Faucet that is use to water plants.	2	
DW45	E2P29	1338 Laramie St	Sample collected from outside hydrant on east side of home.	3	
DW46	E2P35	1407 Waurika St	Sample collected from hydrant on east side of home.	2	
DW47	E2P30	210 Fremont St		3	
DW48	E2P31	1212 Waurika St	Sample collected from outside hydrant on southeast side of home.	0	
DW49	E2P32	1532 Laramie St	Sample collected from hydrant on north side of house	0	
DW50	E2P33	1741 Fieldhouse Ave	Sample collected from outside hydrant on south side of home.	0	
DW51	E2P34	2200 Pennsylvania St	Sample collected from hydrant on west side of home.	4	
DW52	E2P37	2220 19th St	Sample collected in bathroom	0	
DW53	E2P38	1218 Waurika St	Sample collected from hose attached to well	0	
DW54	E2P39	1510 Flake St	Sample collected from garden hose run through window from laundry room	8	
DW17	E2P12	1421 Lamar Ct		2	
DW18	E2P18	1421 Lamar Ct		2	E2P12
	E2P56		Trip blank		
	E2P57		Trip blank		
	E2P55		Trip blank		
DW55	E2P61	1520 Albany St	Sample obtained from southside of house through a hose	0	
DW56	E2P62	1520 Albany St		0	E2P61
DW57	E2P64	1309 Concord Ave	Background ground water sample	0	
DW58	E2P66	1440 S Nappanee St	Sample obtained from faucet within food prep area - Background ground water sample	0	
	E2P53		Trip blank		
	E2P54		Trip blank		
	E2P67		Trip blank		

SECTION IV

DISCUSSION OF MIGRATION PATHWAYS

4.1 Introduction

Potential migration pathways for contaminants migrating from LSGWC are discussed in this section. Potential contaminant migration through ground water, surface water (including drinking water threat, human food chain threat, and environmental threat), soil exposure, and air are discussed.

4.2 Ground Water Pathway

LSGWC lies in the floodplain of the St. Joseph River which is underlain by a regional extensive glacial outwash deposit. Unconsolidated sediments in the area of LSGWC consist of 140 to 170 feet of glacial outwash deposits overlying approximately horizontal shale bedrock. The glacial outwash deposits are predominantly poorly graded sand with localized lenses of sand and gravel. Finer grained soils, both clay and silt, are present as discontinuous lenses within the outwash.

The bedrock units beneath the unconsolidated deposits have been identified as the Coldwater shale of Mississippian age, and Sunbury and Ellsworth shales of Devonian and Mississippian age. The bedrock surface elevation is approximately 600 feet mean sea level.

The glacial outwash unconsolidated deposits beneath LSGWC serves as the aquifer for drinking water. The aquifer is a sole source aquifer. Ground water flow is toward the St. Joseph River. The Elkhart municipal water supply obtains drinking water from this aquifer. LSGWC does not lie in a well head protection area. The nearest wellhead protection area lies one mile to the southeast from LSGWC. Refer to the Wellhead Protection Areas Near Lusher Street map found in Appendix U.

An examination of the ground water well logs obtained from the Indiana Department of Natural Resources, Division of Water, indicate that the majority of wells used for drinking water have been screened in shallow sand and gravel deposits mentioned above. All ground water samples obtained for analysis for this inspection were from the sand and gravel deposits. Refer to Appendix T for copies of the ground water well logs available from the Indiana Department of Natural Resources, Division of Water. It should be noted that not all well logs exist for the private wells located near Lusher Avenue. The majority of residents sampled stated either that they did not know the depth of their wells or that they believed that their wells were quite shallow (ie. around 30 to 40 feet).

The bedrock is not considered an important source of water

because of its depth and relatively low yield in comparison to the glacial outwash aquifer.

As discussed in Section III of this report, five (5) sampling events were conducted as part of this investigation. All known private wells owned by residents and businesses near Lusher Avenue were sampled.

Several chlorinated volatile organic compounds (VOCs) were detected in many of the samples obtained. Sample event #1 revealed trichlorethene (TCE) and other contaminants in the ground water samples collected. Elevated levels of TCE were detected in samples LQ3556 through LQ3561, and LQ3563. TCE detections ranged from 1.1 µg/l to 99 µg/l. Elevated levels of 1,1,1 trichloroethane (TCA) were also detected in samples LQ3542, LQ3545, LQ3447 through LQ3550, LQ3552 through LQ3560, LQ3562, and LQ3567. The 1,1,1 TCA detections ranged from 4.1 µg/l to 60 µg/l. Cis 1,2 dichloroethylene (CISDCE) was detected in samples LQ3556 through LQ3559. CISDCE levels in these samples ranged from 4.2 µg/l to 17 µg/l. 1,1 dichloroethylene (1,1 DCE) was detected in samples LQ3558 and LQ3559 at levels of 1.5 µg/l and 1.2 µg/l respectively. Samples LQ3543 and LQ3544 are considered background samples. No VOCs were detected in these samples. Refer to Appendix P for a key Findings List showing all VOCs detected three (3) times above background.

Elevated levels of VOCs were detected in the ground water samples collected for sample event #2. TCE was detected in samples LQ3417, LQ3418, LQ3425, and LQ3431. TCE levels ranged from 1.5 µg/l to 60 µg/l. Detections of TCA were found in samples LQ3414, LQ2416, LQ3417, LQ3422, LQ3423 through LQ3425, LQ3427, LQ3432, LQ3438, LQ3439, LQ3443, and LQ3444. TCA levels varied between 2.1 µg/l and 150 µg/l. 1,1 DCE was detected in sample LQ3423, and its duplicate LQ3424, at concentrations of 12 µg/l and 13 µg/l respectively. Sample LQ3441 is considered a background sample. No VOCs were detected in this sample. Refer to Appendix Q for a key Findings List showing all VOCs detected three (3) times above background.

VOCs were detected in only three (3) samples that were collected for sample event #3. TCE and CISDCE were detected in samples E2NXO, E2NZ2, and E2NX4. TCE levels ranged from 25 µg/l to 45 µg/l. CISDCE levels varied from 0.44 µg/l to 0.66 µg/l. Samples E2NY6, E2NY9, E2NZ0, and E2NZ8 are considered background samples. No VOCs were detected in these samples. Refer to Appendix R for a key Findings List showing all VOCs detected three (3) times above background.

Sample events #4 and #5 were conducted within a one week time period. Ground water samples were collected from all private wells where VOCs were detected in sampling events #1

through #3. VOCs were detected in the majority of the samples obtained for these sample events. TCE was detected in ground water samples E2P01, E2P02, E2P03, E2P07, E2P09, E2P10, E2P12, E2P13, E2P16, E2P17, E2P18, E2P19, E2P33, E2P37, E2P39, E2P40, E2P41, E2P46, E2P52, E2P61, and E2P62. The TCE concentrations in these samples ranged from 1.1 µg/l to 370 µg/l. TCA concentrations were detected in samples E2P01, E2P02, E2P03, E2P04, E2P07, E2P08, E2P09, E2P10, E2P11, E2P14, E2P16, E2P17, E2P19, E2P21, E2P23, E2P26, E2P27, E2P29, E2P31, E2P32, E2P34, E2P35, E2P37, E2P38, E2P39, E2P41, E2P42, E2P43, E2P44, E2P45, E2P46, E2P47, E2P48, E2P51, E2P52, and E2P58. The TCA concentrations ranged from 0.71 µg/l (E2P41) to 140 µg/l (E2P45). Elevated levels of CISDCE was detected in samples E2P01, E2P02, E2P03, E2P09, E2P10, E2P16, E2P17, E2P39, and E2P52. The CISDCE levels ranged from 0.64 µg/l to 16 µg/l. Tetrachloroetheylene (PERC) was detected in samples E2P13, E2P41, E2P42, E2P44, and E2P51. PERC concentrations ranged from 0.51 µg/l to 0.86 µg/l. Trans 1,2-dichloroethylene (TRANSDCE) was detected in samples E2P17, E2P10, E2P16, and E2P52. TRANSDCE concentrations ranged from 2.3 µg/l to 4.9 µg/l.

Samples E2P50, E2P06, E2P64, and E2P66 are considered background samples. No VOCs were detected in these samples.

Refer to Appendix S for a Key Findings List showing all VOCs detected three (3) times above background.

Due to the fact that elevated levels of VOCs (above MCLs) have been detected in numerous private wells, it appears that ground water pathway has been impacted.

4.3 Surface Water Pathway

The Lusher Street Groundwater Contamination area lies in the St. Joseph River Basin which encompasses an area of 1,699 square miles in northeastern Indiana. The St. Joseph River empties into Lake Michigan. Surface runoff in the vicinity of Lusher Avenue enters into the St. Joseph River which empties into Lake Michigan. LSGWC does not lie in a floodplain.

Storm drains capture overland flow along Lusher Avenue between Nappanee Street and 16th Street. These drains control run off from this area and discharge it into the St. Joseph River in an area west of Elkhart's waste water treatment plant (probable point of entry 2 (PPE2)) which is located to the west of LSGWC. All other run off in the area is controlled by combined storm/sewer overflow systems (CSOs) which is treated by the waste water treatment plant. This treated drainage discharges into the St. Joseph River at a point located due north of the treatment plant. This discharge point is considered PPE1.

4.3.1 Drinking Water Threat

The majority of residents within the 4-mile radius of the LSGWC area obtain drinking water from municipal wells and from their own private wells. There are no known surface water intakes that are sources for drinking water within the 15-mile surface water pathway. Refer to Appendix H.

4.3.2 Human Food Chain Threat

As stated in Section 4.3, drainage from LSGWC is controlled by the St. Joseph River. The St. Joseph River is considered a fishery. According to the 2007 Indiana Fish Consumption Advisory, polychlorinated biphenyls (PCBs) are considered a threat to this fishery. The primary focus of this SI was to investigate the presence of VOCs in the ground water Therefore, no surface water pathway samples were collected.

4.3.3 Environmental Threat

The Indiana Department of Natural Resources/Division of Nature Preserves-Heritage Program (IDNR/DNP-HP) documents sensitive environments and/or endangered or threatened species within the State of Indiana. A survey conducted by the IDNR/ DNP-HP indicated that there are endangered or threatened species near the Lusher Street Ground Water Contamination area. State endangered species include the greater redhorse (fish),

blandings turtle, and the goose-foot corn salad (plant). Refer to Appendix I for the name and location of the endangered species cited. The primary focus of this Site Inspection was to investigate the presence of VOCs in the ground water. Therefore, this inspection has insufficient information to determine if an environmental threat exists.

4.4 Soil Exposure

Soil areas outlined within the study area of Lusher Street Ground Water Contamination are accessible to the public and workers of businesses located in the Lusher Avenue area. There are no schools or daycare facilities within 200 feet of the site. Refer to the 4-Mile Radius Map, Appendix G, for the population within each distance ring. No soil samples were collected as part of this Site Inspection due to the numerous facilities in the area, the age the VOC contamination which has existed in the area, and the inability to determine the best locations to take these samples. This inspection has insufficient information to determine if the soil exposure pathway has been impacted.

4.5 Air Pathway

No air samples were taken during this inspection. Some outside odors were detected during this inspection when collecting the ground water samples. Presently, there are no

reports of adverse health effects resulting from the migration of hazardous substances through the air. Since no outside air samples were obtained, it is not known if there is any potential risk to nearby residents by the air pathway.

Section V
Site Summary

In the late 1980s, while conducting an extent of contamination study at the Gemeinhardt Inc. facility under the terms of a Consent Order with the U.S. EPA., volatile organic compounds (VOCs) were detected in private drinking water wells in an area immediately south of Lusher Avenue. At the time of this investigation, it was believed that the contamination in this area was independent of the Gemeinhardt contamination. The northern edge of the Gemeinhart plant building is 2400 feet south of Lusher Avenue. It should be noted that the Conrail Superfund site is located adjacent to the Lusher Street Groundwater Contamination. The western boundary of Lusher Street Groundwater Contamination is the eastern boundary of Conrail.

In late 1987, the on-scene coordinator of U.S. EPA, in conjunction with the EPA's Technical Assistance Team (TAT), began an investigation into the newly discovered ground water contamination. As a result of the investigation, the U.S. EPA initiated a mitigative action at the Lusher Street site to alleviate threats to human health posed by the VOC contamination in residential and commercial water wells. The site was entered into the Comprehensive Environmental Response Compensation Liability Information System (CERCLIS) as Lusher Street

Ground Water Contamination. The U.S. EPA installed municipal water hook ups and/or provided carbon filtration units at numerous residential and commercial properties. Municipal water lines were extended to the majority of properties impacted except for one residence, 1619 Avalon Street. A municipal hook up was not provided to the resident at 1619 Avalon Street because there was no municipal water supply line in close proximity to this residence.

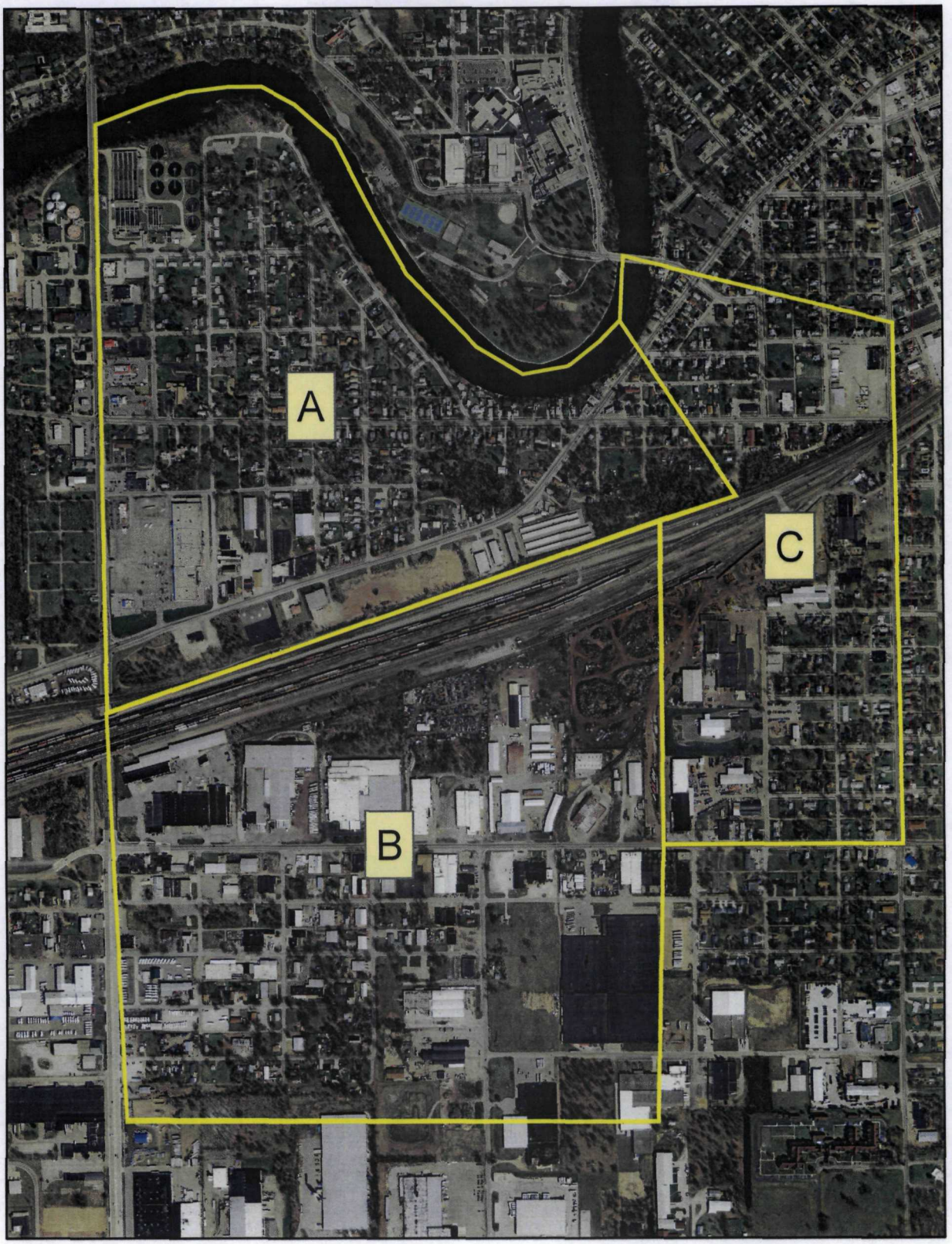
In October 2005, the raw untreated water at the 1619 Avalon Street was sampled by IDEM staff to determine if operation and maintenance (O&M) activities still need to be conducted. Sample results revealed that the TCE levels were 700 µg/l. Subsequent ground water sampling, as part of this Site Inspection report, revealed that numerous nearby private wells have also been impacted with elevated levels of VOCs.

References

Ref. No.	Description of the Reference
1.	U.S. EPA. ON-SCENE COORDINATOR'S REPORT, CERCLA IMMEDIATE REMOVAL ACTION, LUSHER STREET SITE, ELKHART, INDIANA, MARCH, 1989
2.	U.S. EPA.` ACTION MEMORANDUM, Request for Removal Action at the Lusher Street Groundwater Contamination site, Elkhart, Indiana, December, 1987
3.	WESTON-SPER. LUSHER STREET GROUND WATER INVESTIGATION, JANUARY, 1988
4.	U.S. EPA. ACTION MEMORANDUM, Request for an Emergency Removal Action at the LUSHER STREET SITE, December 2006
5.	U.S.G.S. Topographic Map, Elkhart Quadrangle, Photo Revised 1994
6.	U.S.G.S. Topographic Map, Osceola Quadrangle, Photo Revised 1994
7.	U.S.G.S. HYDROLOGIC AND CHEMICAL EVALUATION OF THE GROUND-WATER RESOURCES OF NORTHWEST ELKHART COUNTY, INDIANA, October 1981
8.	GROUNDWATER TECHNOLOGY INC. SUBSURFACE INVESTIGATION For The CONRAIL RAILYARD, NOVEMBER 1989
9.	ECOLOGY AND ENVIRONMENT, INC. REMEDIAL INVESTIGATION/FEASIBILITY STUDY, CONRAIL SITE, VOLUME 1 OF 2, MARCH 1994
10.	ECOLOGY AND ENVIRONMENT, INC. REMEDIAL INVESTIGATION/FEASIBILITY STUDY, CONRAIL SITE, VOLUME 2 OF 2, MARCH 1994
11.	U.S.G.S. HYDROGEOLOGIC ATLAS OF AQUIFERS IN INDIANA, Water-Resources Investigation Report 92-4142, 1994
12.	U.S. EPA Consent Decree; United States of America v Walerko Tool and Engineering Corporation. 1993

Appendix A
Lusher Site Map Showing Three Sampling Areas

Lusher Avenue Site Map Showing Three Sampling Areas, Elkhart County, Elkhart, IN



Legend

Sampling Areas

IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

0 250 500 1,000 Feet

0 100 200 400 Meters

N

Mapped on January 4, 2007
Revised with new logo on April 13
by Lorraine Wright
Applied Science Technologies
Science Services Branch
Office of Land Quality
Indiana Department of Environmental Management

Source:
Aerials - 2005 Orthophotography
Sampling Areas were digitized based on the Project Manager's description.
The map does not contain sensitive or classified information.

DISCLAIMER:
This map does not represent a legal document. It is intended to serve as an aid in graphic representation only. Information shown on this map is not warranted for accuracy.

SDMS US EPA Region V

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Due to certain scanning equipment capability limitations, the document page(s) is not available in SDMS. .

Specify Type of Document(s) / Comments:

MAPS IN APPENDIX B THROUGH G

☐ Document is available at the EPA Region 5 Records Center.

Specify Type of Document(s) / Comments:

Appendix B
Sample Location ID Map Sample (Event #1)

Appendix C
Sample Location ID Map Sample (Event #2)

Appendix D
Sample Location ID Map Sample (Event #3)

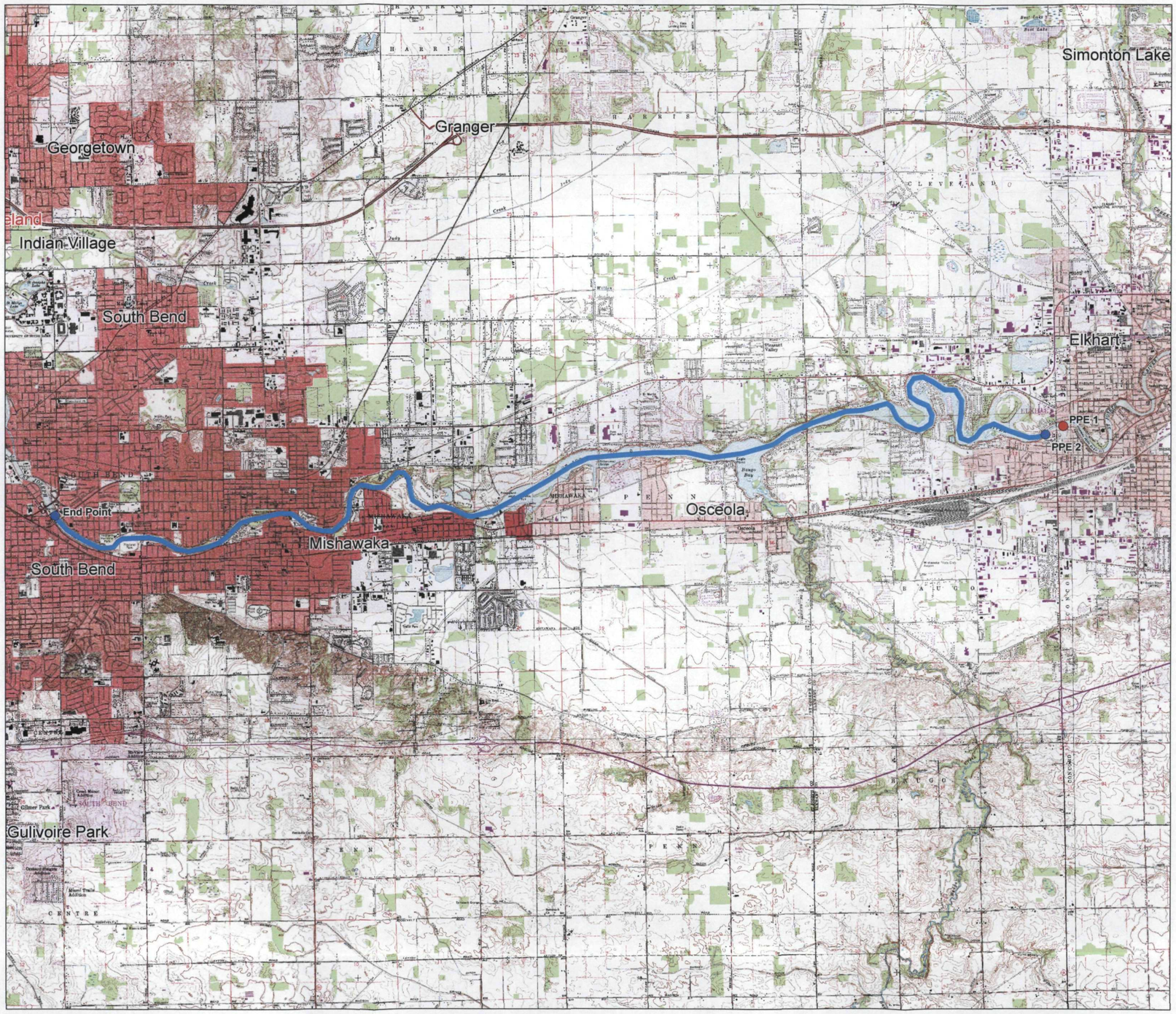
Appendix E
Sample Location ID Map Sample (Event #4 and #5)

Appendix F
Address Location Map

Appendix G
4-Mile Radius Map

Appendix H
15-Mile Surface Water Pathway Map

15 Mile Surface Water Pathway Map
Lusher Avenue Site
Elkhart, IN
IND982073785



Legend

- Probable Point of Entry - PPE 1
- Probable Point of Entry - PP2
- End Point
- 15 Mile Surface Water Pathway from PPE 2
- City Names (SDEMGR.CitiesPoly_TGR2K)

IDEM
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Mapped on February 26, 2007
by Lorraine Wright
Applied Science Technologies
Science Services Branch
Office of Land Quality
Indiana Department of Environmental Management

Source:
Topographic Map - Digital Raster Graphic, USGS
Probable Point of Entry 1, 2 and End Point - digiitzed based on Project Manager description.
15 mile surface water pathway was digitized. The pathway begins at PPE 2 and ends at the End Point.

DISCLAIMER:
This map does not represent a legal document. It is intended to serve as an aid in graphic representation only. Information shown on this map is not warranted for accuracy. This map does not contain sensitive or classified information.

0 0.5 1 2 Miles

0 1 2 4 Kilometers

Appendix I
Sensitive Environment Information

DNR Indiana Department of Natural Resources

Mitchell E. Daniels, Jr., Governor
Kyle J. Hupfer, Director

Division of Nature Preserves
402 W. Washington St., Rm W 26
Indianapolis IN 46204

February 28, 2007

Mr. Mark Jaworski
IDEM
Site Investigation Section
Office of Land Quality

Dear Mr. Jaworski:

I am responding to your request for information on the endangered, threatened, or rare (ETR) species, high quality natural communities, and natural areas documented within four mile of the Lusher Avenue Groundwater Contamination project site, Elkhart, Indiana. The Indiana Natural Heritage Data Center has been checked and enclosed you will find information on the ETR species documented from the project area.

For more information on the animal species mentioned, please contact Katie Smith, Nongame Supervisor, Division of Fish and Wildlife, 402 W. Washington Room W273, Indianapolis, Indiana 46204, (317)232-4080.

The information I am providing does not preclude the requirement for further consultation with the U.S. Fish and Wildlife Service as required under Section 7 of the Endangered Species Act of 1973. You should contact the Service at their Bloomington, Indiana office.

U.S. Fish and Wildlife Service
620 South Walker St.
Bloomington, Indiana 47403-2121
(812)334-4261

At some point, you may need to contact the Department of Natural Resources' Environmental Review Coordinator so that other divisions within the department have the opportunity to review your proposal. For more information, please contact:

Robert Carter Jr., Director
Department of Natural Resources
attn: Christie Stanifer
Environmental Coordinator
Division of Water
402 W. Washington Street, Room W264
Indianapolis, IN 46204
(317)232-4160

Please note that the Indiana Natural Heritage Data Center relies on the observations of many individuals for our data. In most cases, the information is not the result of comprehensive field surveys conducted at particular sites. Therefore, our statement that there are no documented significant natural features at a site should not be interpreted to mean that the site does not support special plants or animals.

Due to the dynamic nature and sensitivity of the data, this information should not be used for any project other than that for which it was originally intended. It may be necessary for you to request updated material from us in order to base your planning decisions on the most current information.

Thank you for contacting the Indiana Natural Heritage Data Center. You may reach me at (317)232-8059 if you have any questions or need additional information.

Sincerely,

Ronald P. Hellmich

Ronald P. Hellmich
Indiana Natural Heritage Data Center

enclosure: data sheet

Endangered, Threatened and Rare Species, and High Quality Natural Communities within a four mile radius of the Lusher Avenue Groundwater Contamination Site, Elkhart, Indiana

TYPE	SPECIES NAME	COMMON NAME	FED	STATE	TRS	LASTOBS	COMMENTS
Fish	Moxostoma valenciennesi	Greater Redhorse		SE	037N004E 12	2000-09-26	
Fish	Moxostoma valenciennesi	Greater Redhorse		SE	037N005E 25	2000-06-30	
High Quality Natural Community	Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	037N004E 16 EH & NEQ NEQ NWQ	1986-06-17	
High Quality Natural Community	Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	037N004E 16 EH	1986-06-17	
Mollusk	Venustaconcha ellipsiformis	Ellipse		SSC	036N004E 15	2003-08-01	Live
Mollusk	Venustaconcha ellipsiformis	Ellipse		SSC	038N005E 30	2003-08-01	Live
Mollusk	Venustaconcha ellipsiformis	Ellipse		SSC	037N005E 22	2003-08-01	Weathered dead
Reptile	Emydoidea blandingii	Blanding's Turtle		SE	037N004E 03 SWQ NEQ NEQ	1994-06-05	
Vascular Plant	Arenaria stricta	Michaux's Stitchwort		SR	037N004E 02	1945-06-17	
Vascular Plant	Linum sulcatum	Grooved Yellow Flax		SR	037N004E 09 NEQ	1935-09-29	
Vascular Plant	Valerianella chenopodiifolia	Goose-foot Corn-salad		SE	037N004E 09	1987-04	

Fed: LE = listed federal endangered; C = federal candidate species

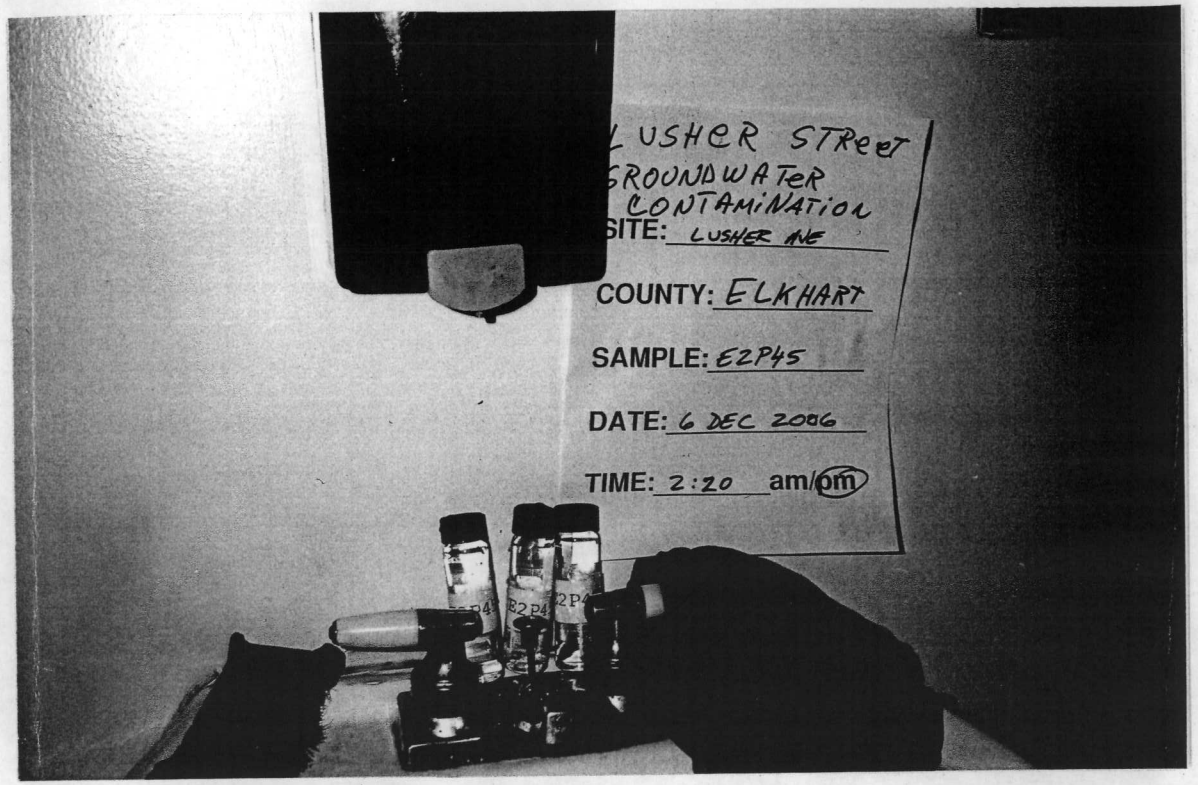
State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SG = state significant; WL = watch list; no rank = not ranked but tracked to monitor status

Grank: Heritage Global Rank: G1 = critically imperiled; G2 = imperiled; G3 = rare or uncommon; G4 = widespread but with long term concerns; G5 = widespread and secure; GU = unranked

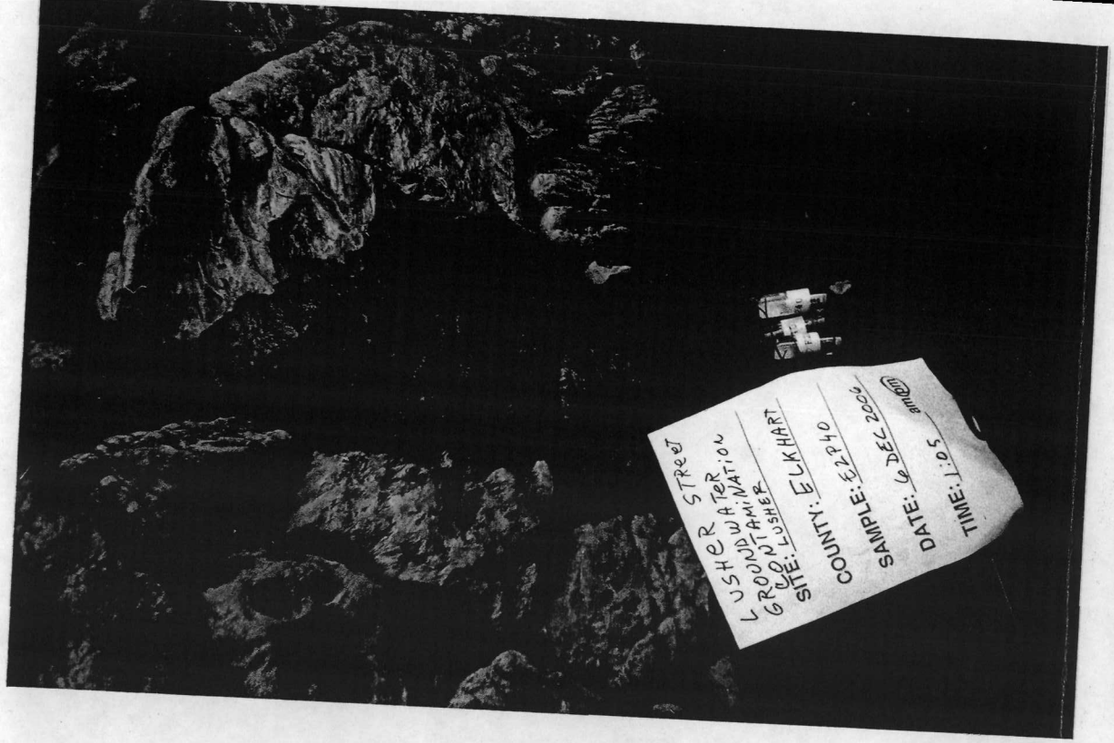
Srank: State Heritage Rank: S1 = critically imperiled; S2 = imperiled; S3 = rare or uncommon; S4 = widespread but with long term concerns SNR = not ranked; B = breeding rank; SNA = not resident in state in non-breeding season

Appendix J
IDEM Site Photographs

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 1:28 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P42
DESCRIPTION: Groundwater sample obtained from 2120 West Franklin

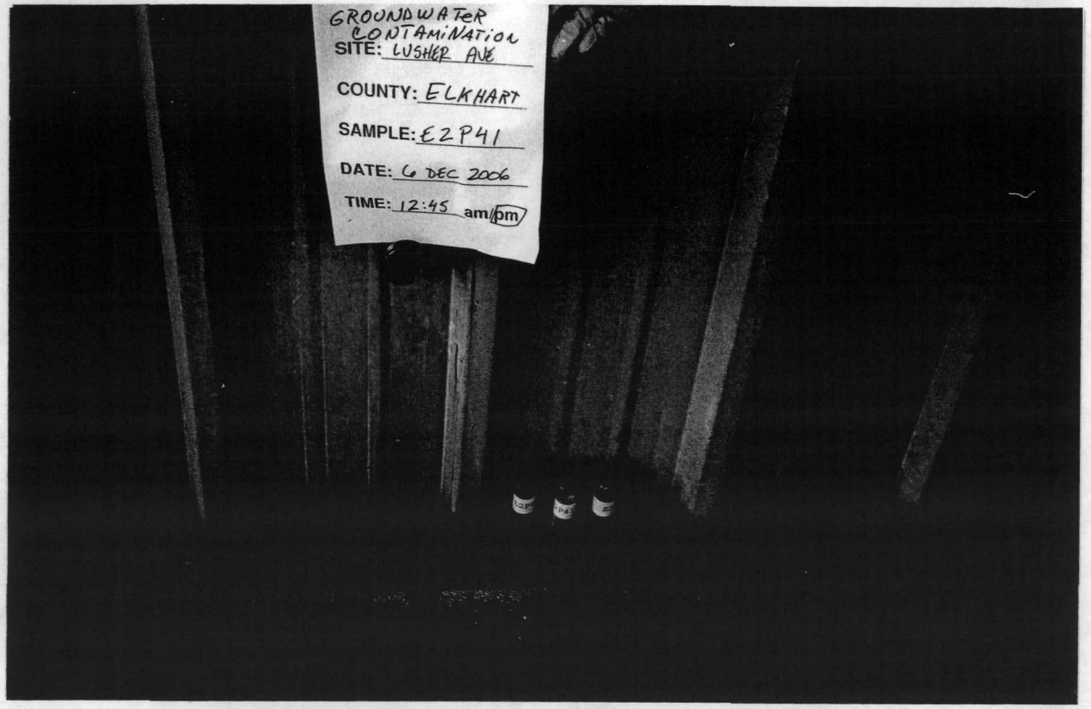


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 2:20 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P45
DESCRIPTION: Groundwater sample obtained from 2111 17th Street

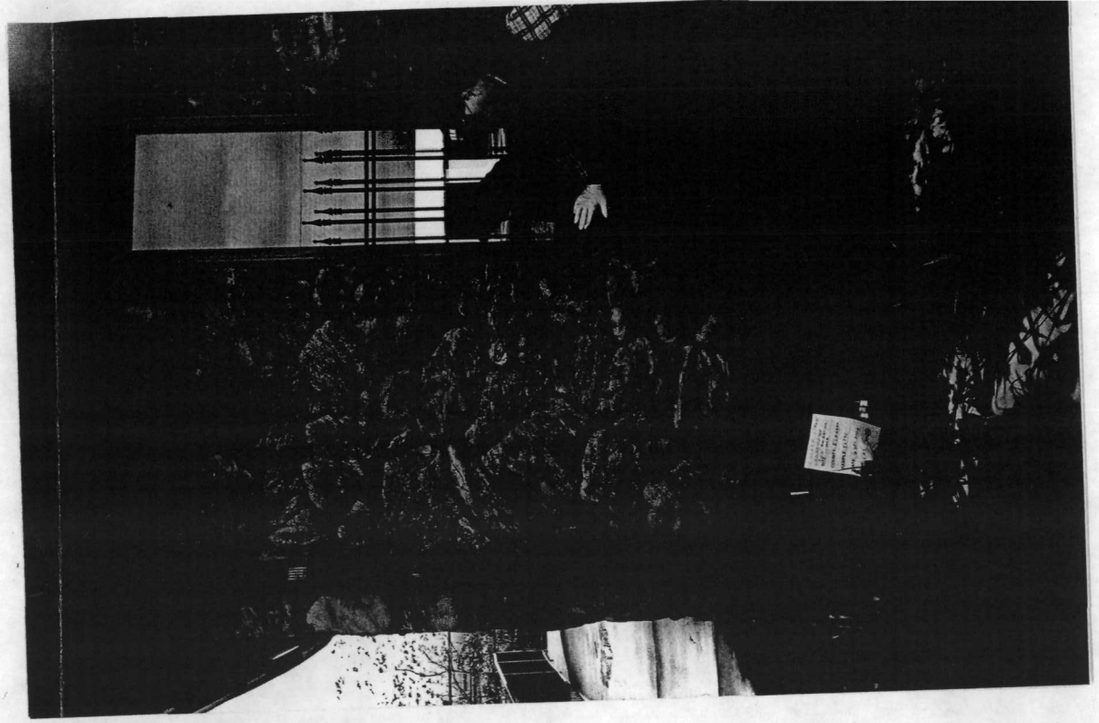


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 1:05 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P40
DESCRIPTION: Groundwater sample obtained from 2031 West Franklin

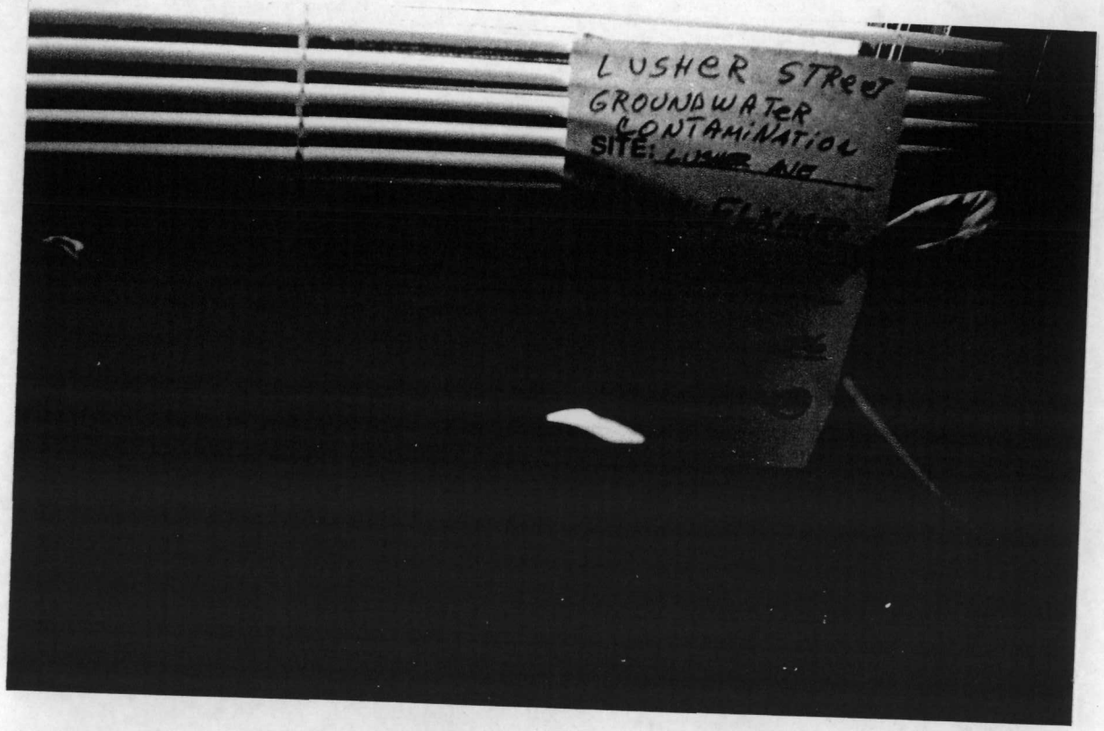
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 1:28 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P42
DESCRIPTION: Picture shows the area where sample E2P42 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 12:45 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P41
DESCRIPTION: Groundwater sample obtained from 2001 West Franklin

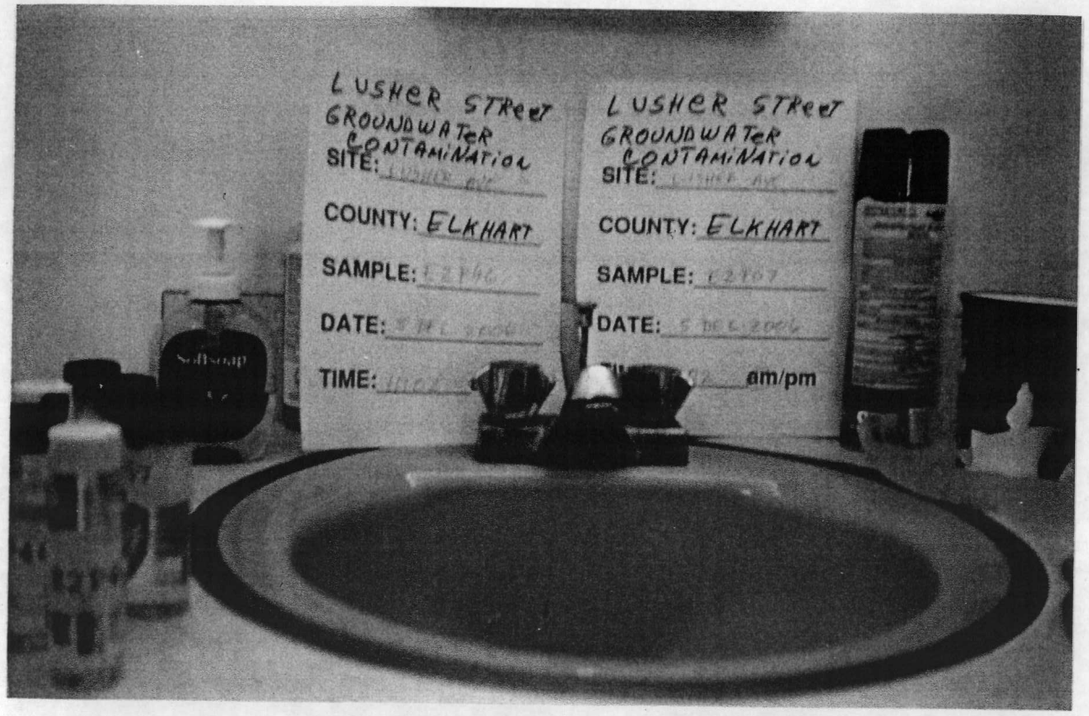


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 1:05 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P40
DESCRIPTION: Picture shows the area where sample E2P40 was obtained

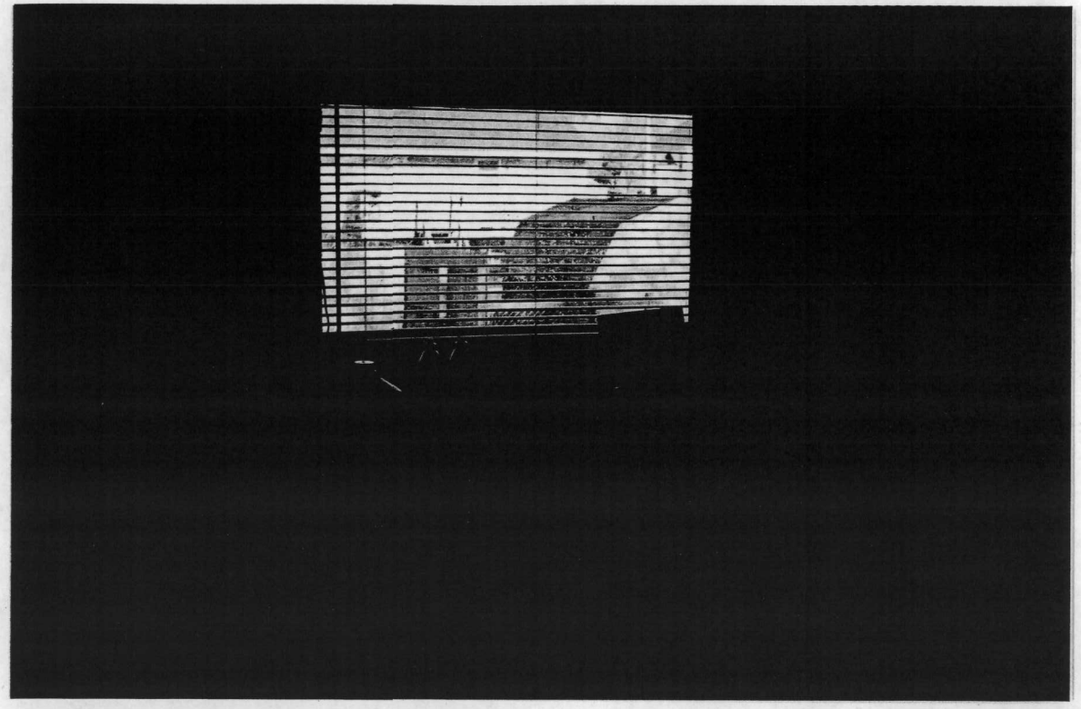


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 12:20 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P52
DESCRIPTION: Groundwater sample obtained from 1511 Flake

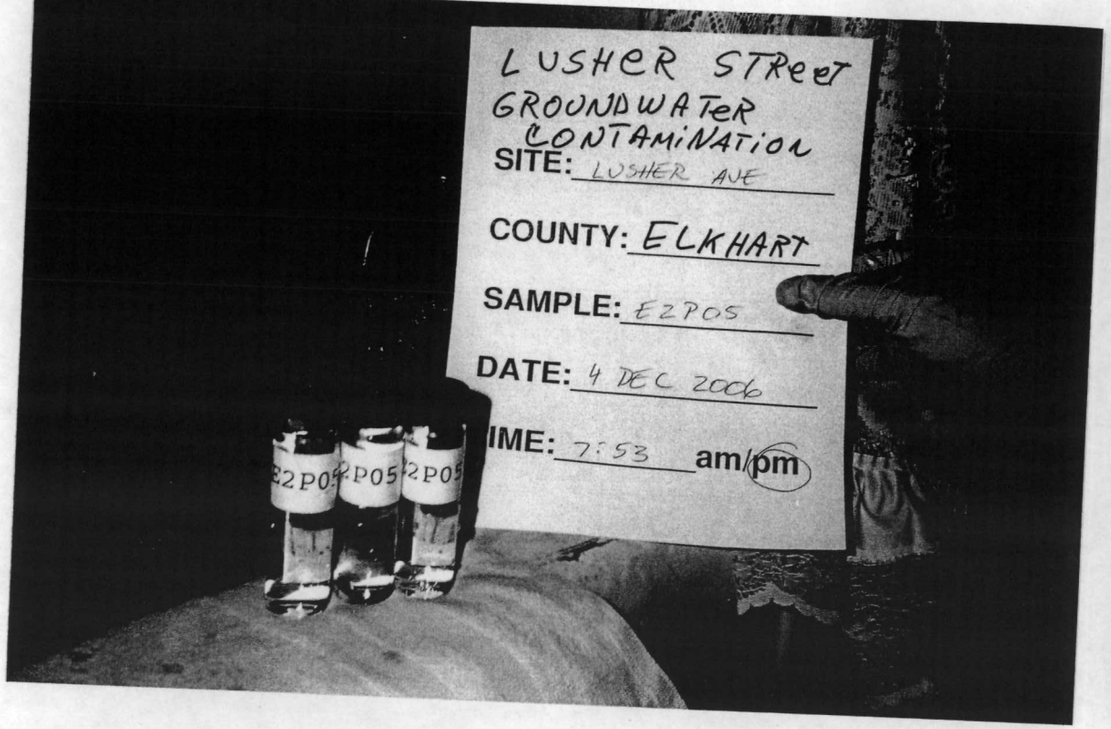
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 12:45 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P41
DESCRIPTION: Picture shows the area where sample E2P41 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 11:02 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P46 & E2P07
DESCRIPTION: Groundwater samples obtained from 1665 West Franklin St.

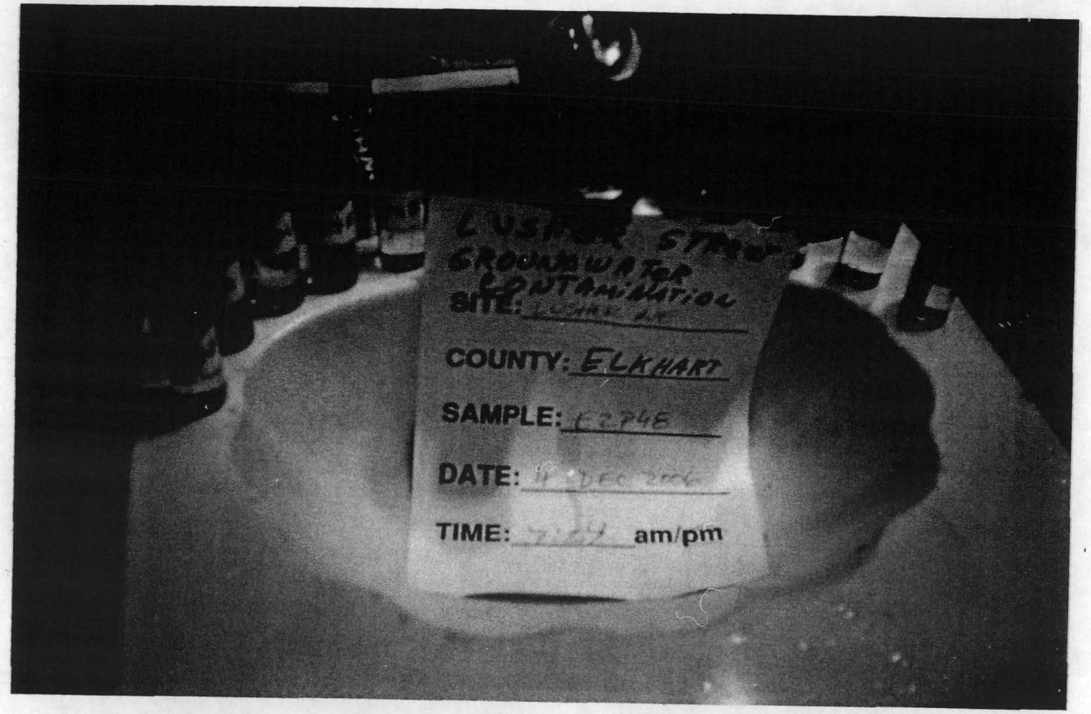


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 12:20 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P52
DESCRIPTION: Picture shows the area where sample E2P52 was obtained

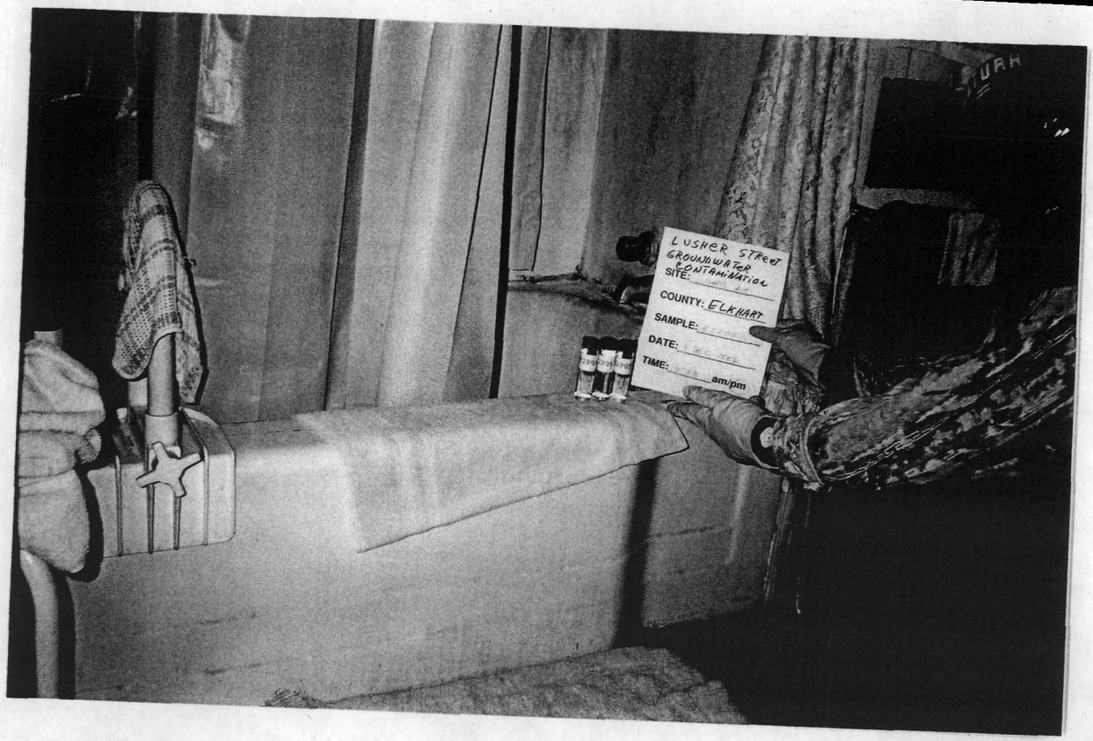


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 7:53 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P05
DESCRIPTION: Groundwater sample obtained from 1807 Borneman Av.

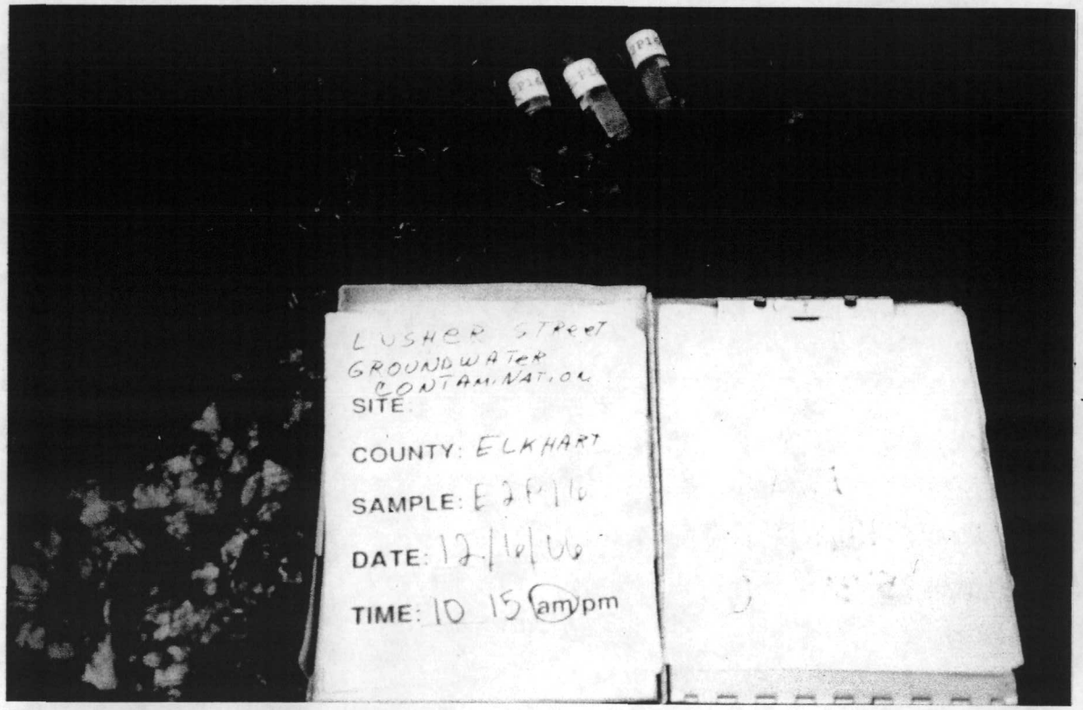
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 11:02 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P46 & E2P07
DESCRIPTION: Picture shows the area where samples E2P46 and E2P07 were obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 7:24 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P48
DESCRIPTION: Groundwater sample obtained from 1825 Leininger



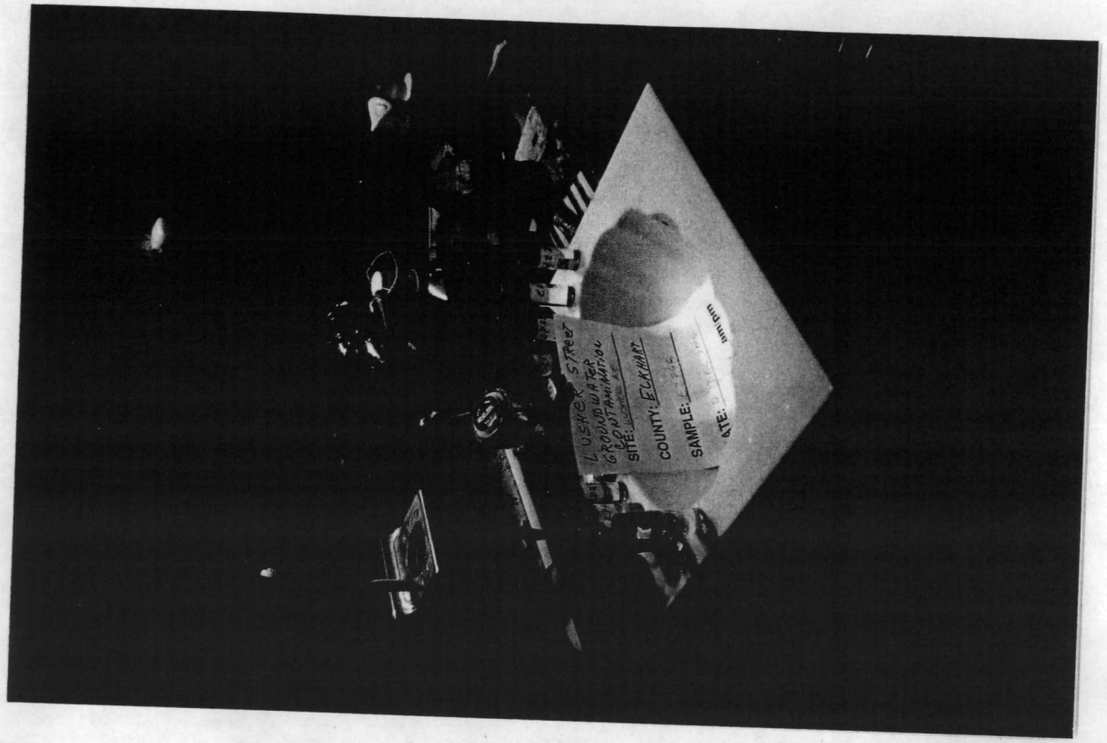
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 7:53 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P05
DESCRIPTION: Picture shows the area where sample E2P05 was obtained



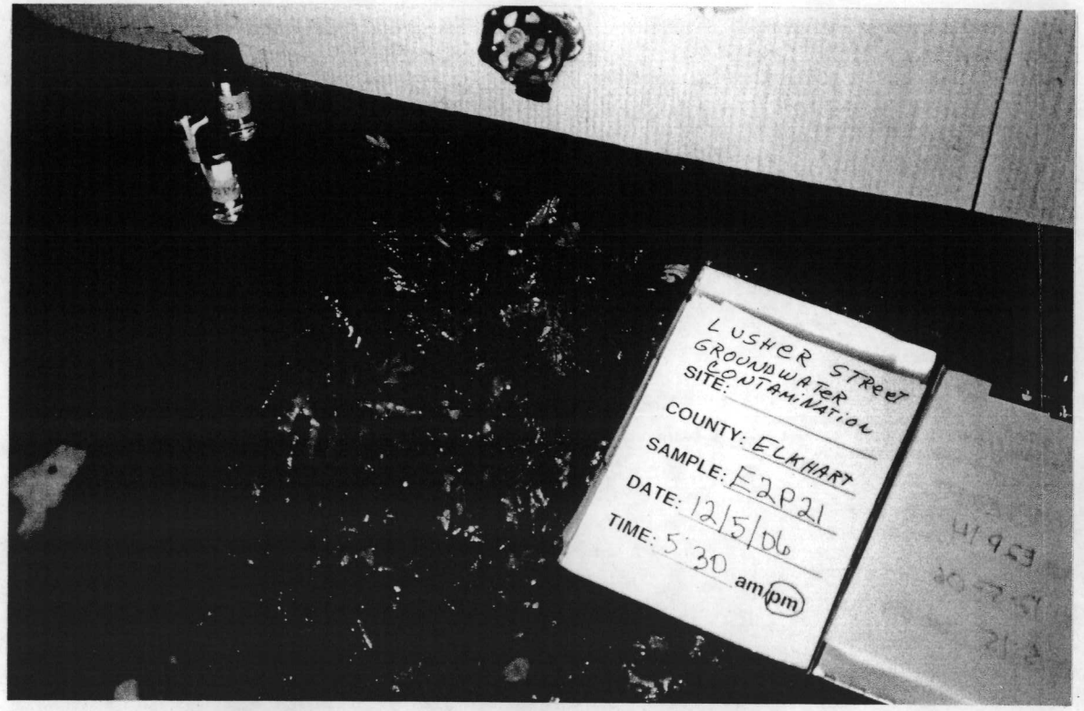
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 10:15 am
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P16
DESCRIPTION: Groundwater sample obtained from 1529 Flake

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 10:40 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P24
DESCRIPTION: Picture shows the area where sample E2P24 was obtained

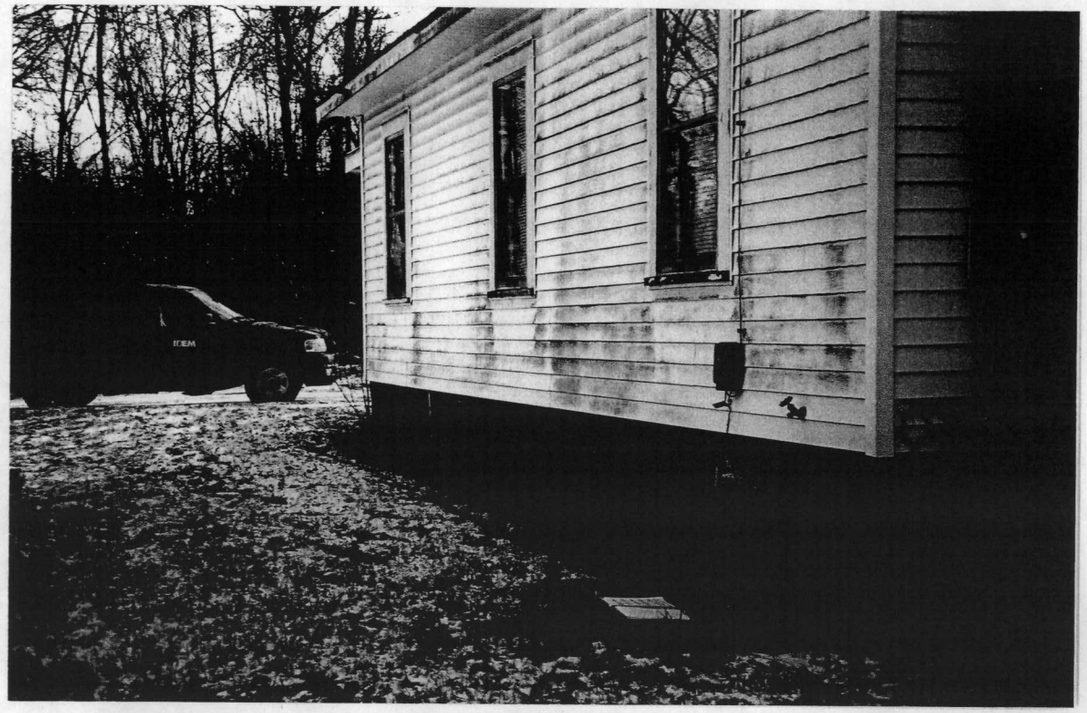
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 10:40 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P24
DESCRIPTION: Groundwater sample obtained from 1519 Elliston



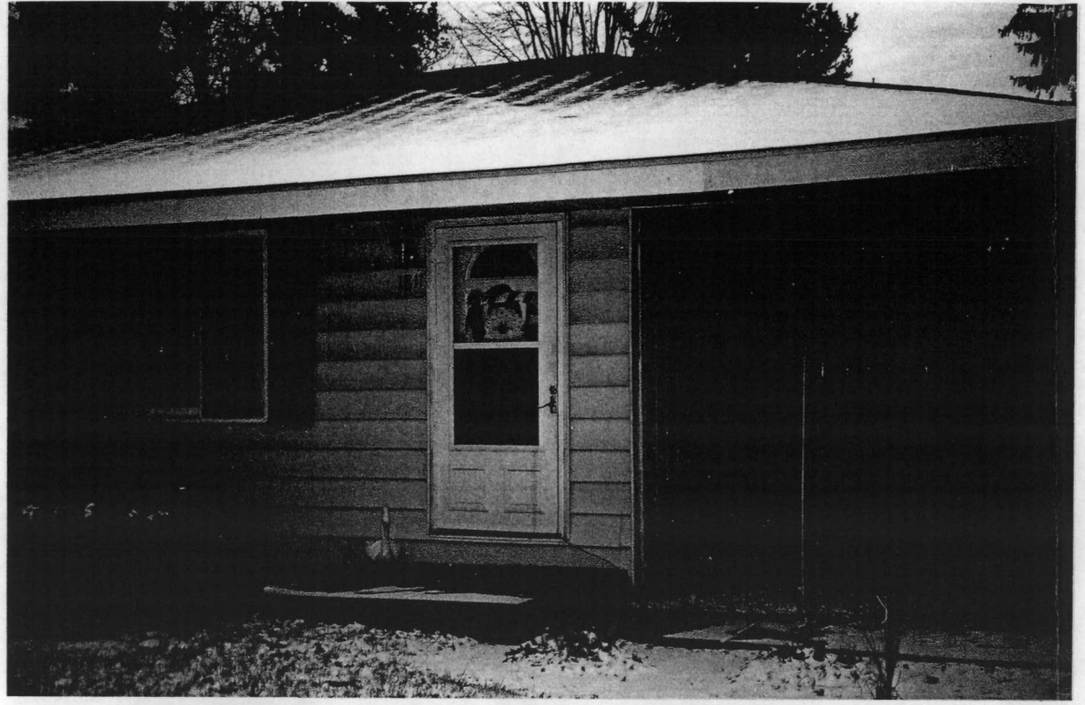
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 7:24 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P48
DESCRIPTION: Picture shows the area where sample E2P48 was obtained



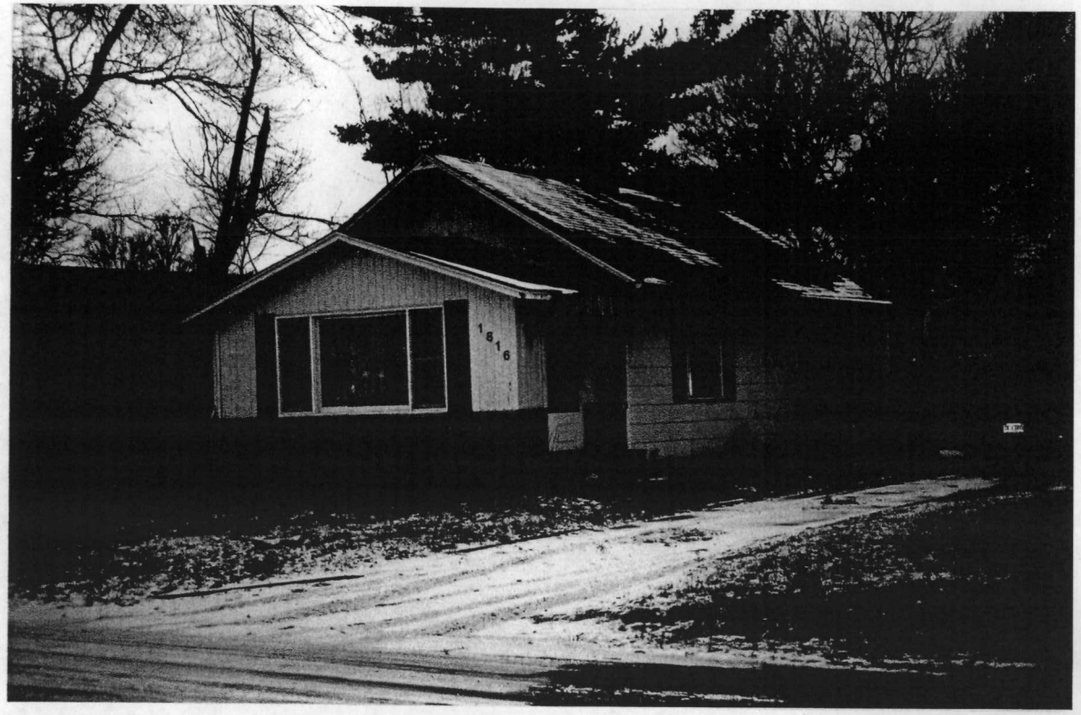
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:30 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P21
DESCRIPTION: Groundwater sample obtained from 1816 Leininger



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 10:15 am
WEATHER: Cloudy; 20s
SAMPLE ID # E2P16
DESCRIPTION: Picture shows the area where sample E2P16 was obtained

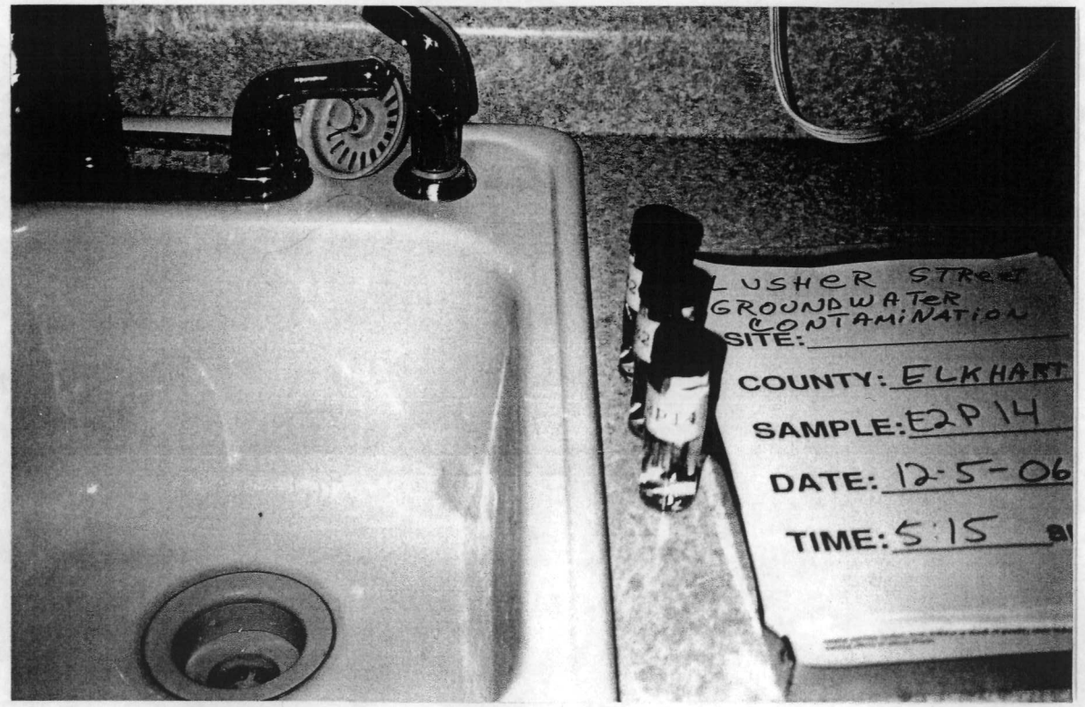


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:15 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P14
DESCRIPTION: Picture shows the area where sample E2P14 was obtained



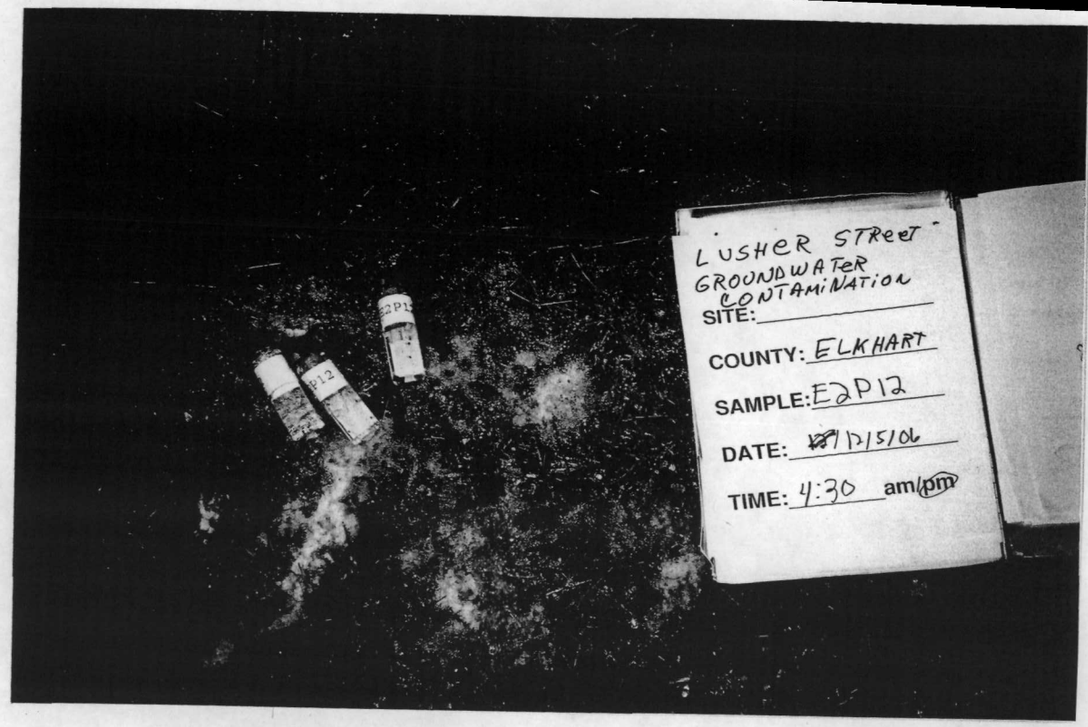
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:30 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P21
DESCRIPTION: Picture shows the area where sample E2P21 was obtained

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 4:30 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P12
DESCRIPTION: Picture shows the area where sample E2P12 was obtained

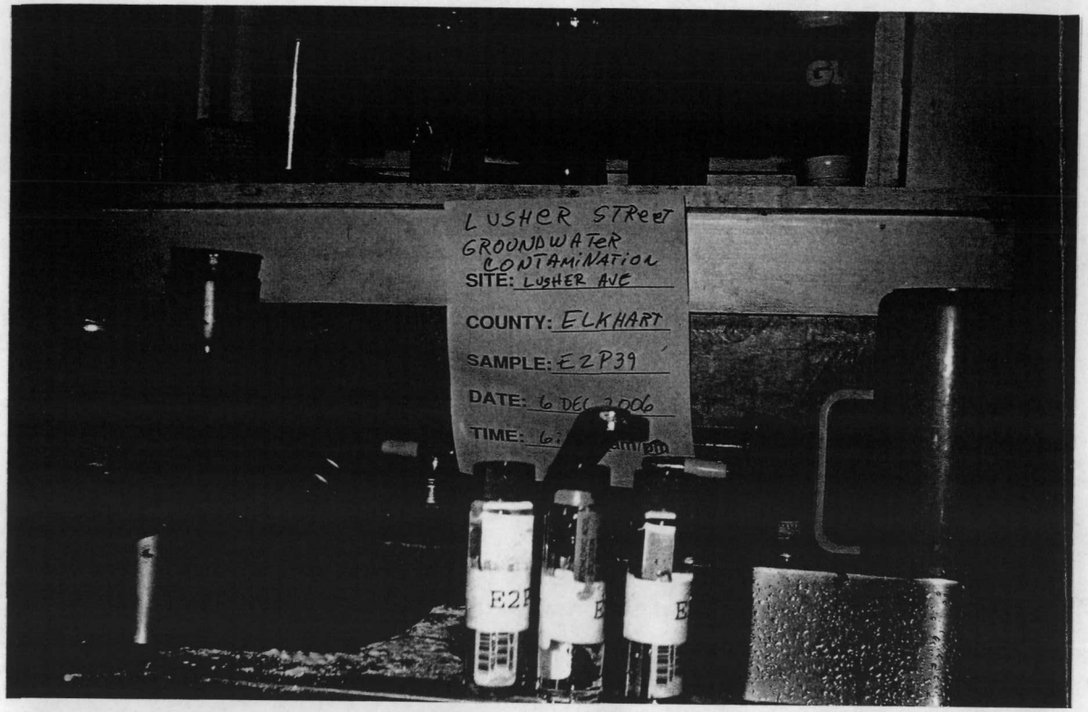


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:15 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P14
DESCRIPTION: Groundwater sample obtained from 1511 Flake

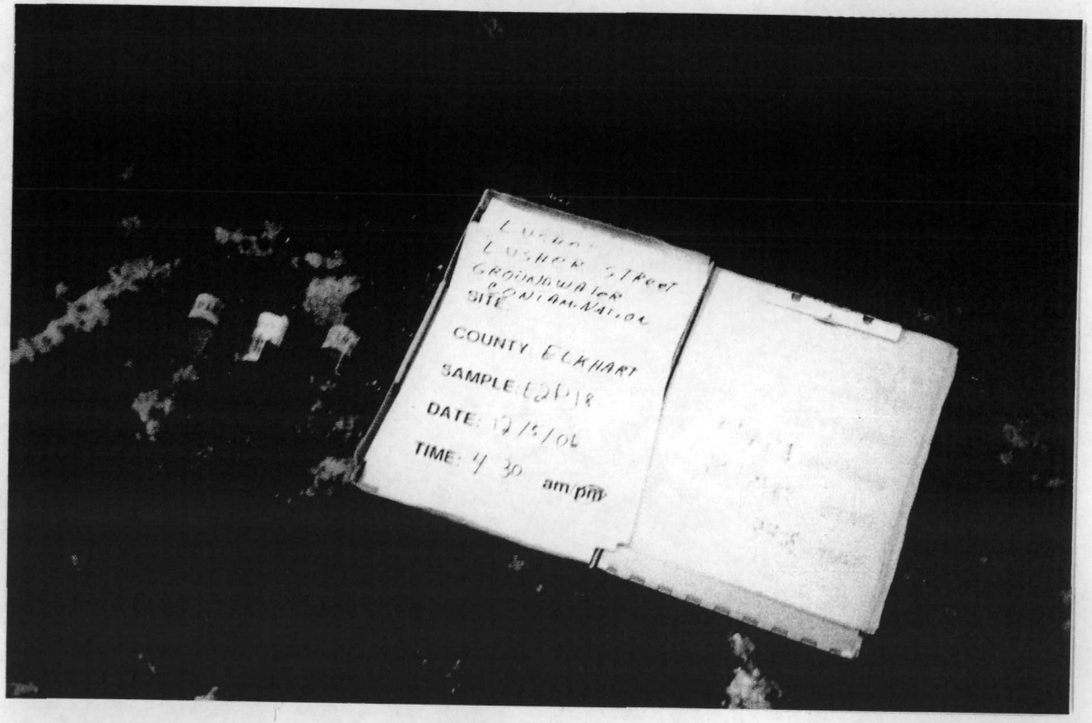
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 4:30 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P18
DESCRIPTION: Picture shows the area where sample E2P18 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 4:30 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P12
DESCRIPTION: Groundwater sample obtained from 1421 Lamar Ct.



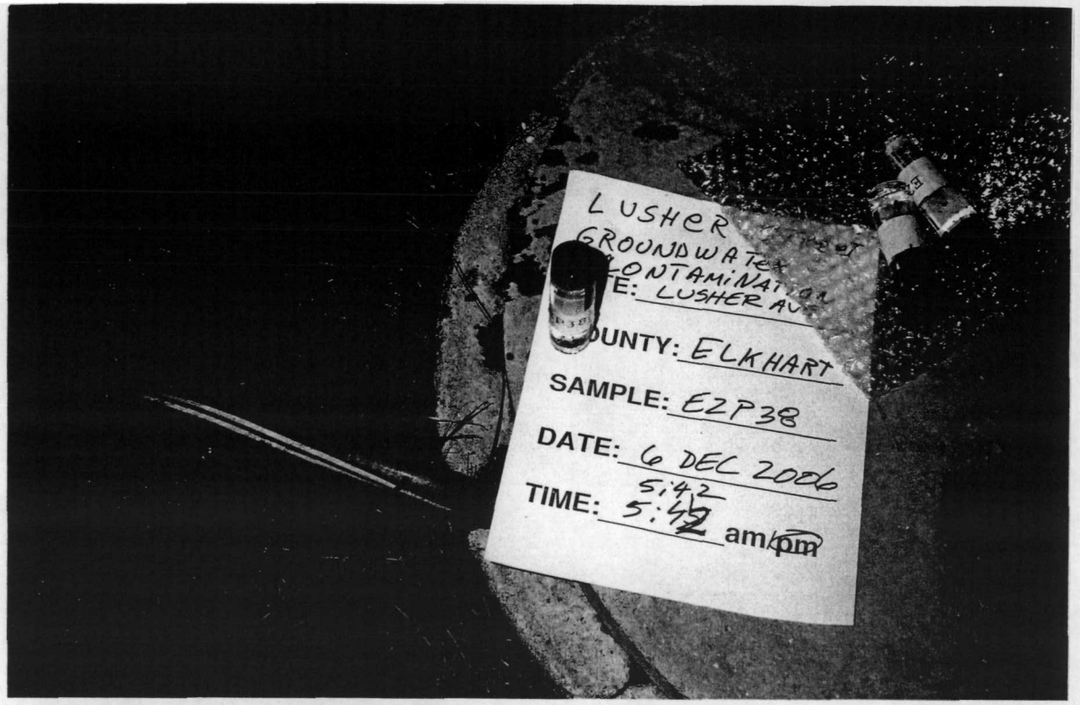
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 6:15 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P39
DESCRIPTION: Groundwater sample obtained from 1510 Flake



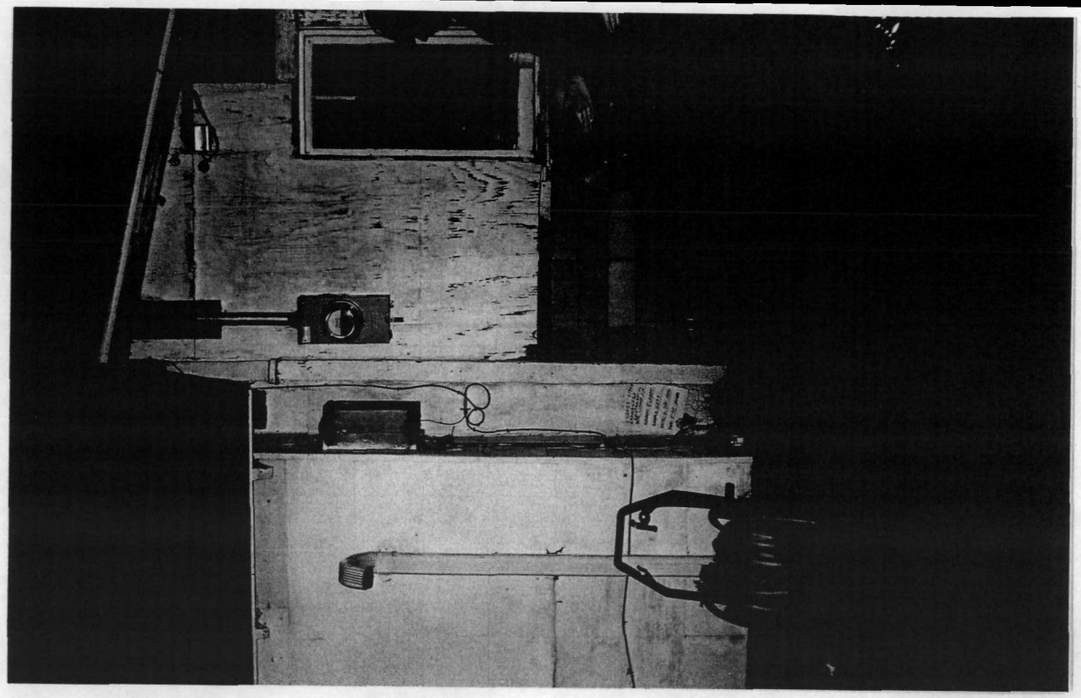
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 4:30 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P18
DESCRIPTION: Duplicate Groundwater sample obtained from 1421 Lamar Court.

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 5:45 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P31
DESCRIPTION: Groundwater sample obtained from 1512 Waurika

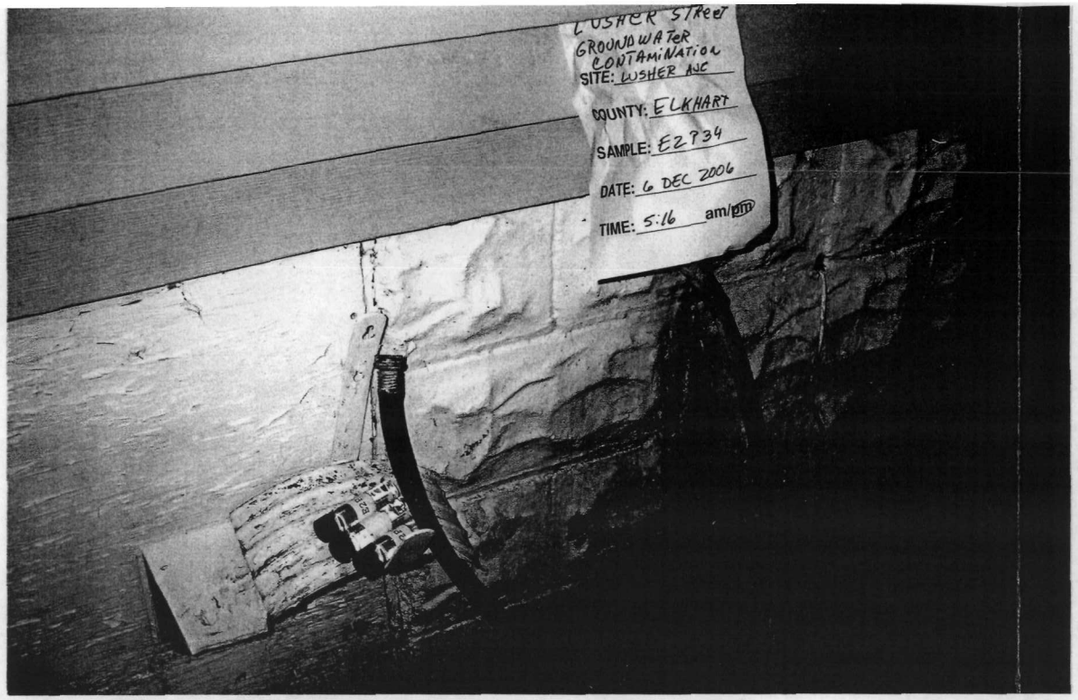
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 6:15 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P39
DESCRIPTION: Picture shows the area where sample E2P39 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 5:42 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P38
DESCRIPTION: Groundwater sample obtained from 1218 Waurika

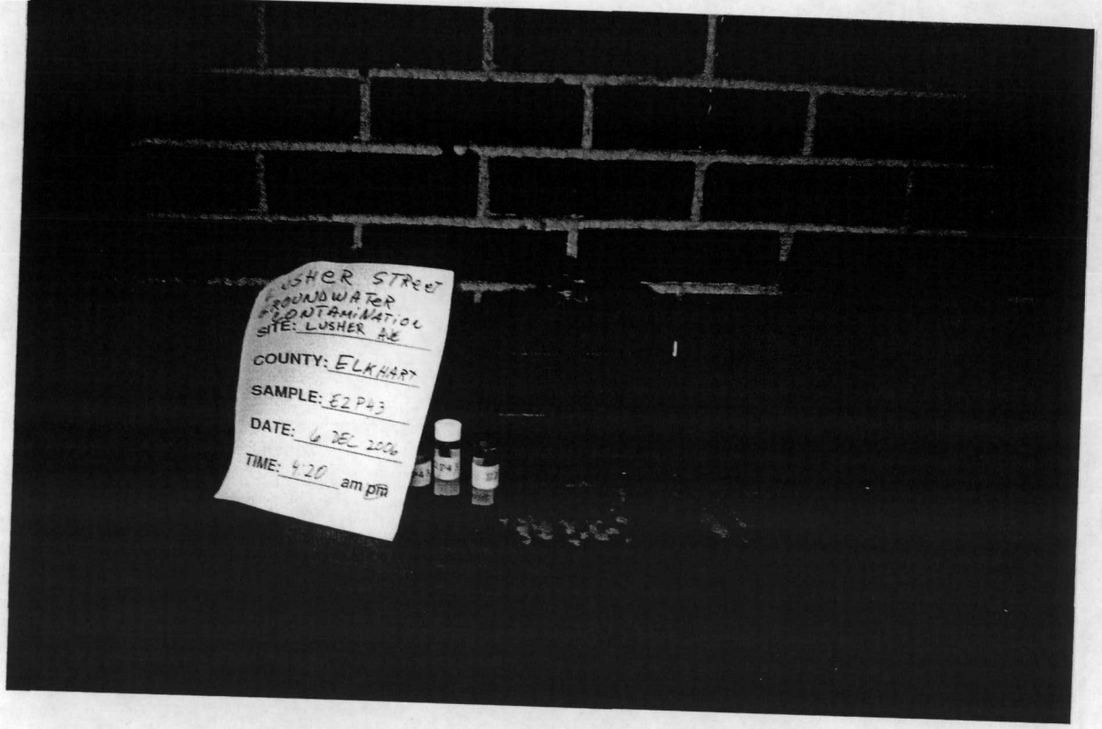


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 5:45 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P31
DESCRIPTION: Picture shows the area where sample E2P31 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 5:16 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P34
DESCRIPTION: Groundwater sample obtained from 2200 Pennsylvania St.

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 5:42 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P38
DESCRIPTION: Picture shows the area where sample E2P38 was obtained

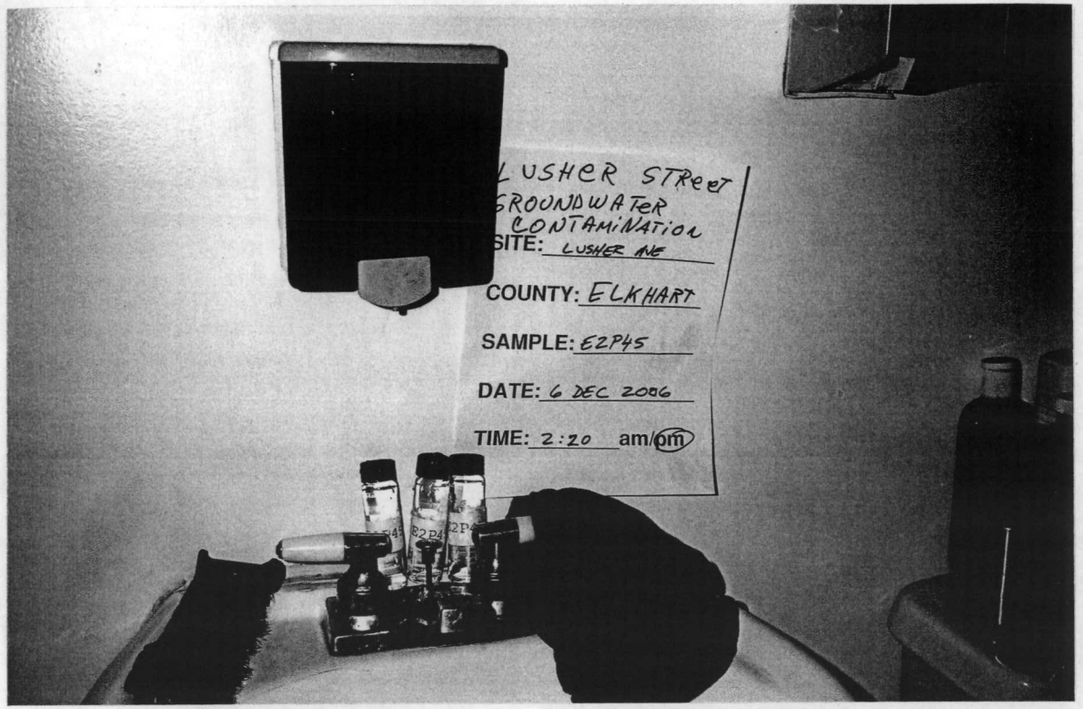


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 4:20 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P43
DESCRIPTION: Groundwater sample obtained from 1526 Okema

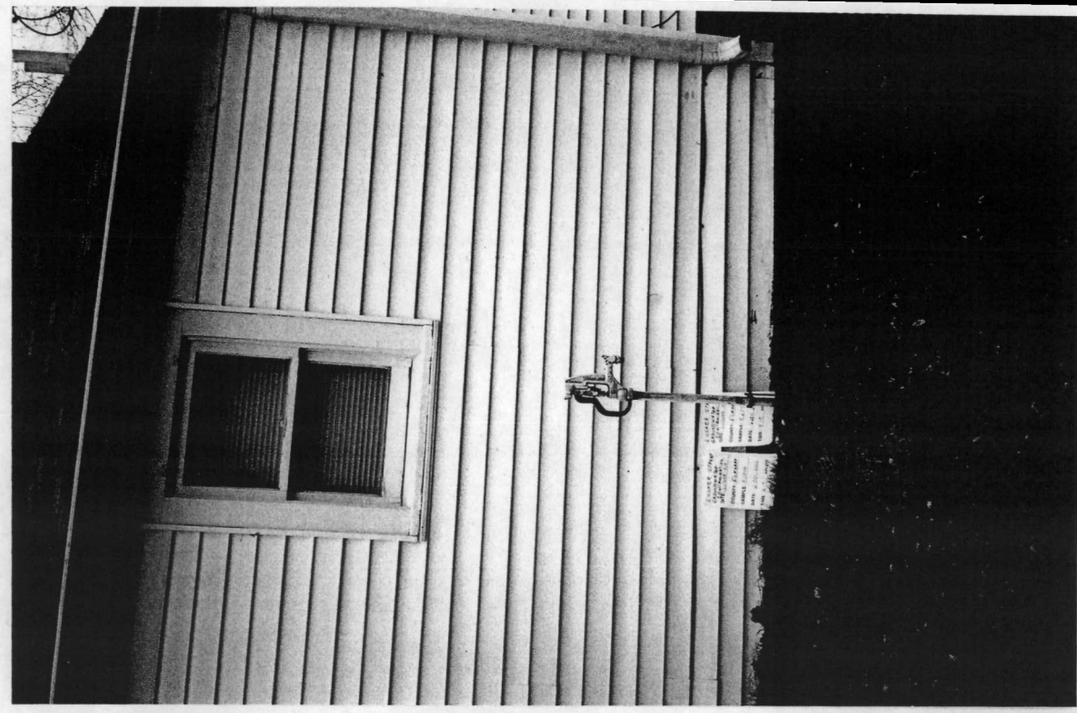
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 5:16 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P34
DESCRIPTION: Picture shows the area where sample E2P34 was obtained

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 4:15 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P44 &E2P51
DESCRIPTION: Groundwater samples obtained from 1520 Okema

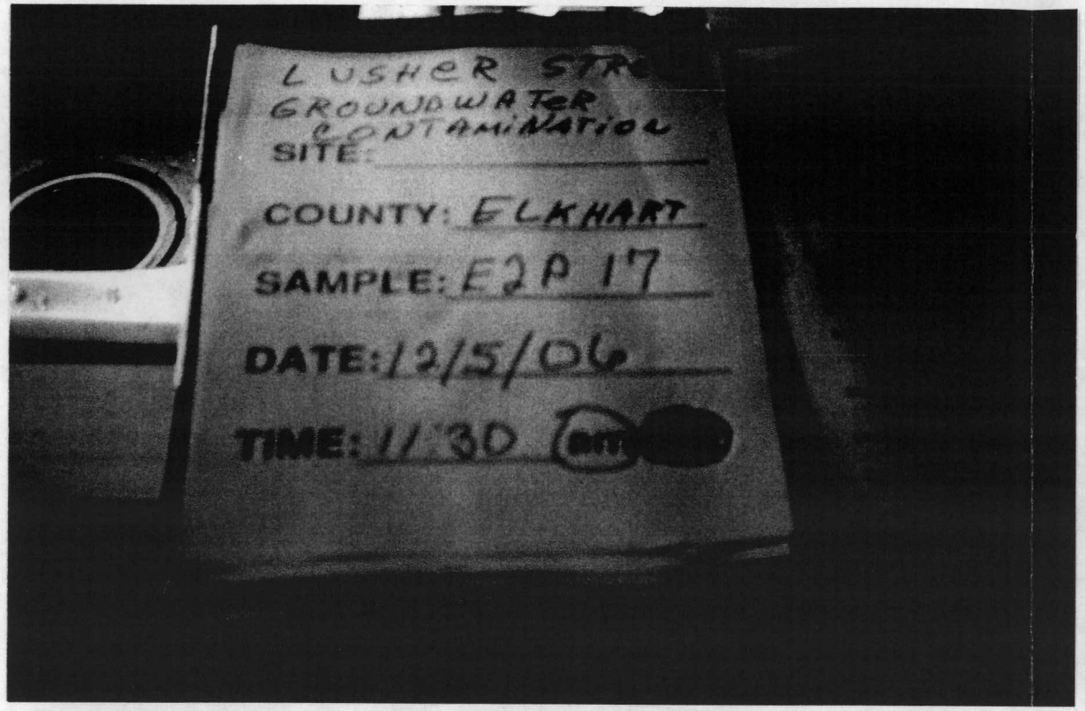
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 4:20 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P43
DESCRIPTION: Picture shows the area where sample E2P43 was obtained

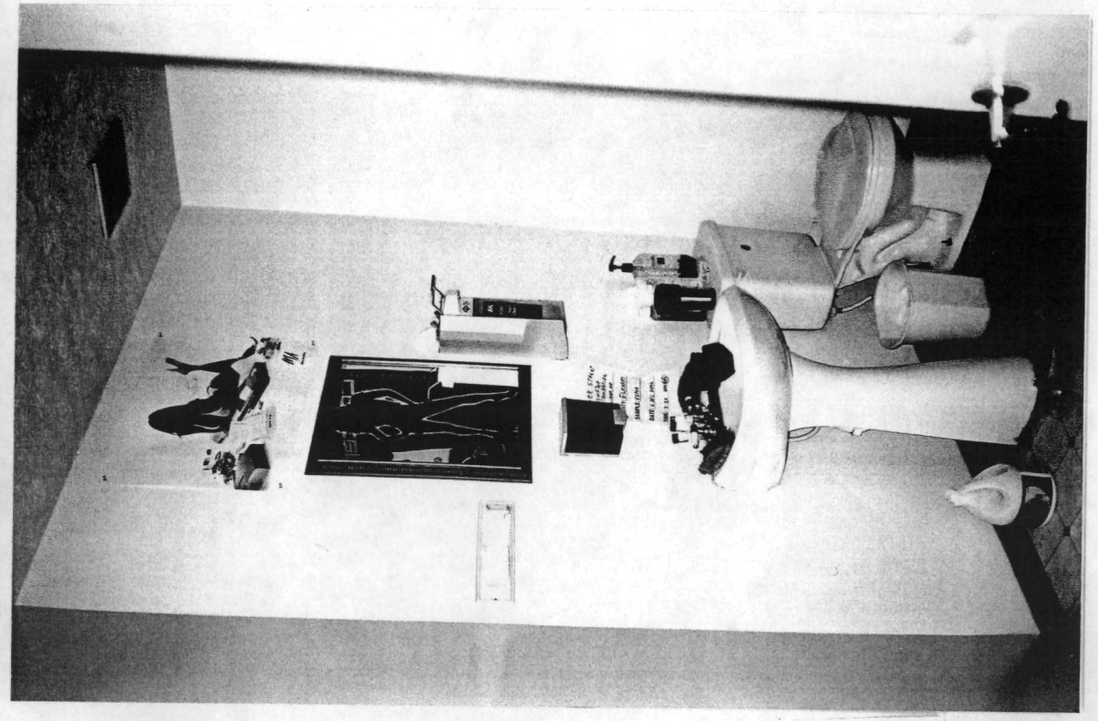


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 2:20 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P45
DESCRIPTION: Groundwater sample obtained from 2111 17 th Street



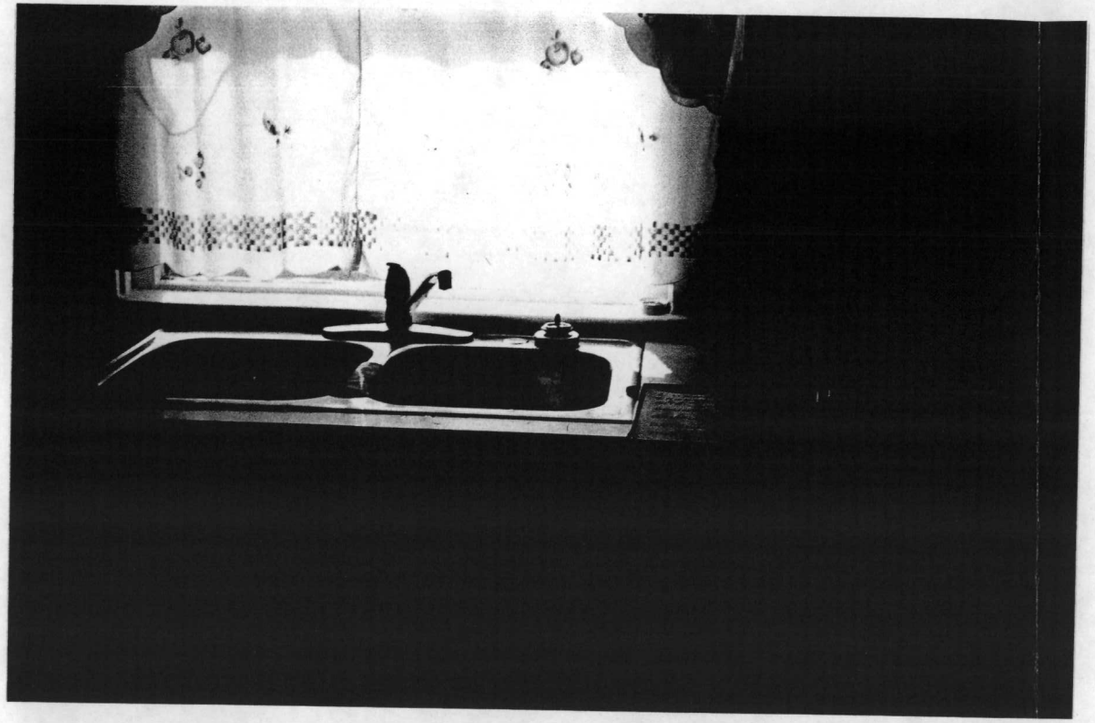
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 4:15 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P44 & E2P51
DESCRIPTION: Picture shows the area where sample E2P44 and E2P51 were obtained



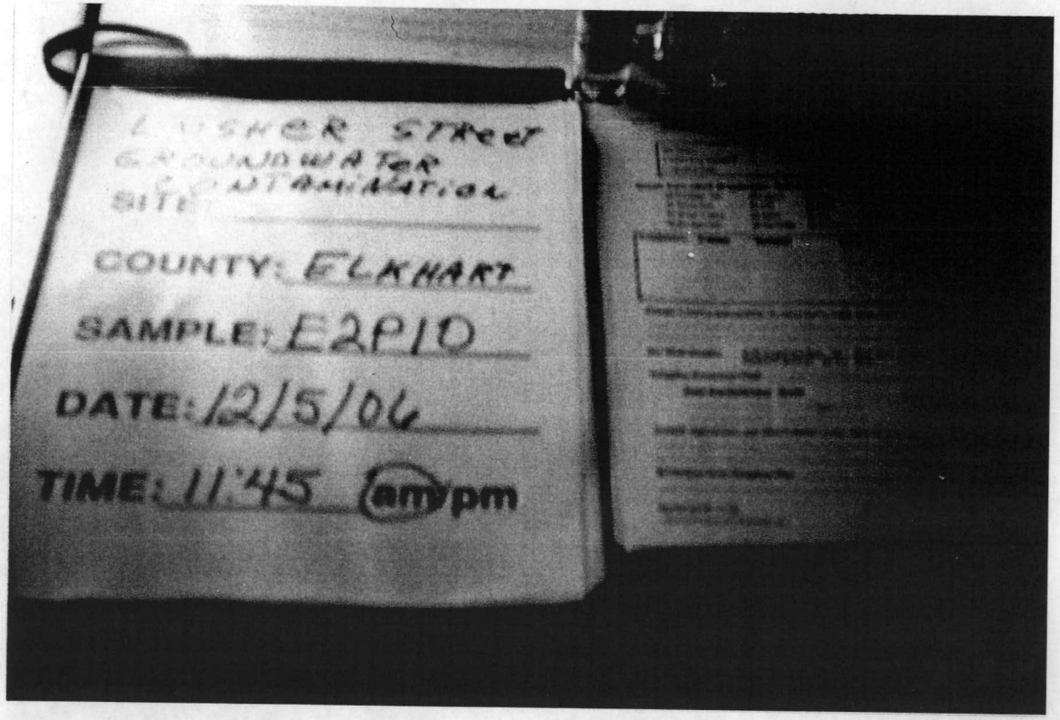


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 11:30 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P17
DESCRIPTION: Groundwater sample obtained from 1527 Flake

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 2:20 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P45
DESCRIPTION: Picture shows the area where sample E2P45 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 11:30 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P17
DESCRIPTION: Picture shows the area where samples E2P17 & E2P10 were obtained

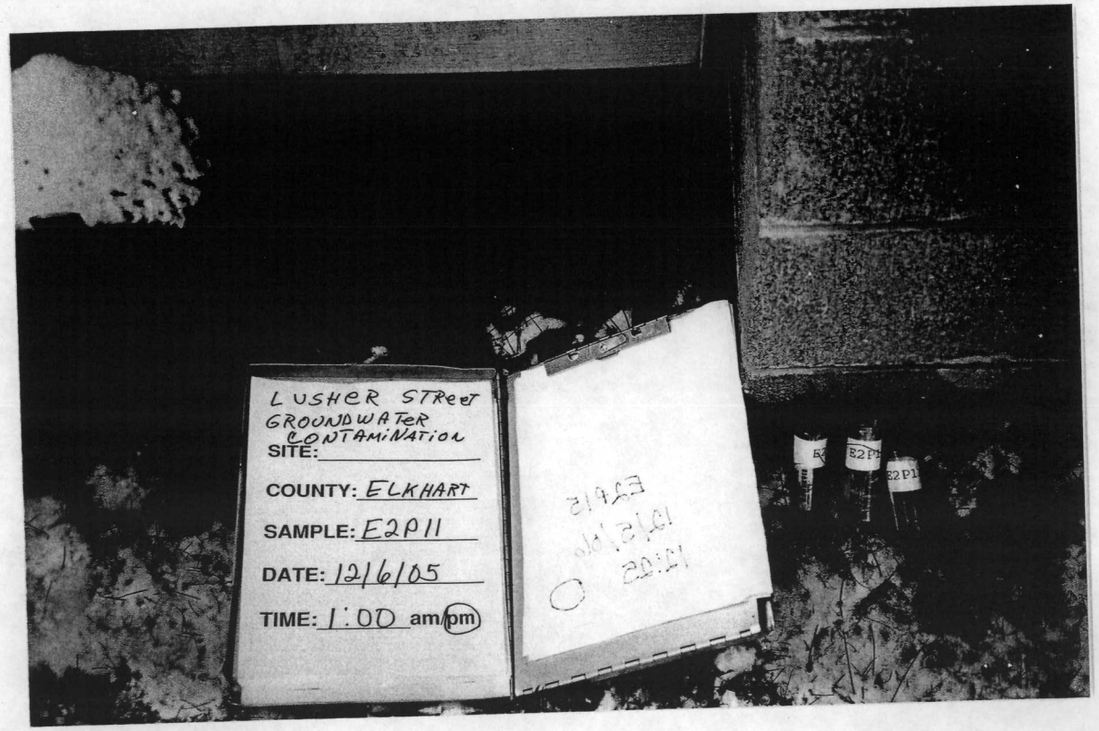


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 11:45 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P10
DESCRIPTION: Duplicate Groundwater sample obtained from 1527 Flake

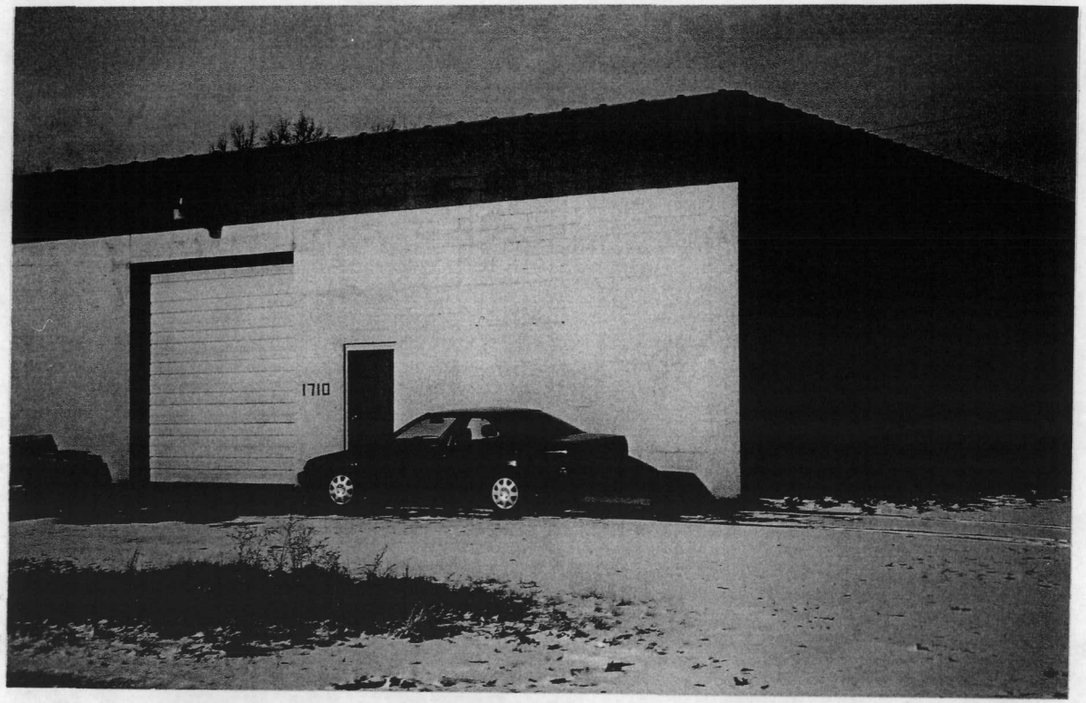
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 12:25 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P15
DESCRIPTION: Picture shows the area where sample E2P15 was obtained

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 12:25 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P15
DESCRIPTION: Groundwater sample obtained from 1333 El Reno

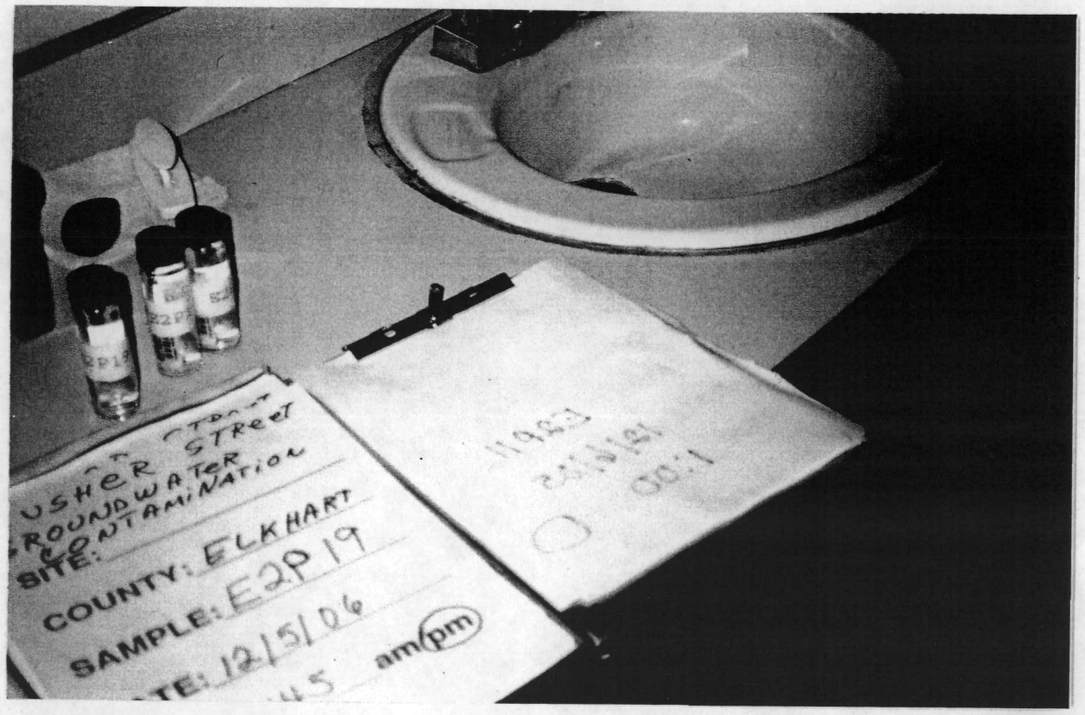
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/6/06
TIME: 1:00 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P11
DESCRIPTION: Picture shows the area where sample E2P11 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 1:00 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P11
DESCRIPTION: Groundwater sample obtained from 1645 Fieldhouse



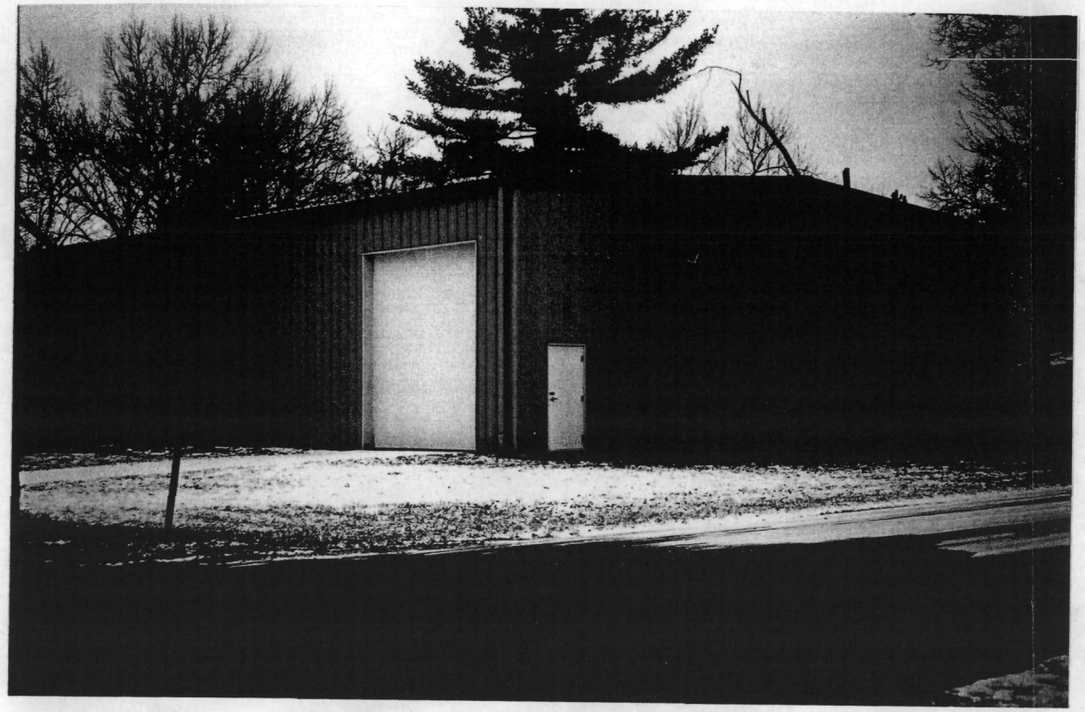
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 1:45 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P19
DESCRIPTION: Picture shows the area where sample E2P19 was obtained



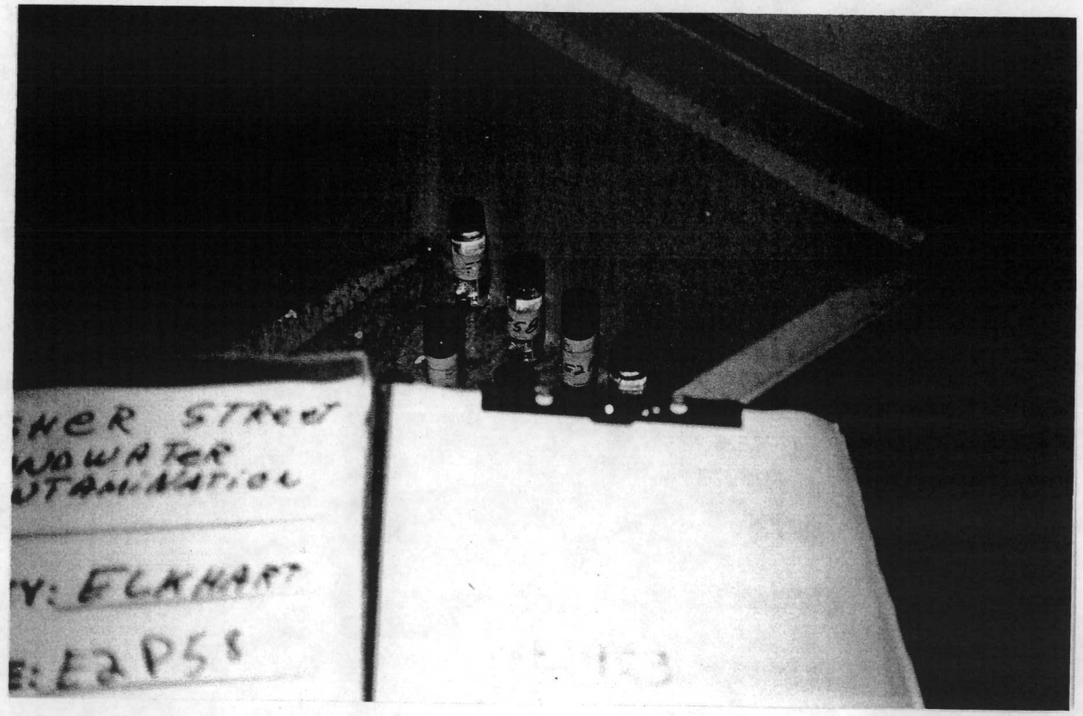
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 1:45 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P19
DESCRIPTION: Groundwater sample obtained from 1715 Fieldhouse

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 3:30 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P13
DESCRIPTION: Groundwater sample obtained from 1800 Markle Street

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 2:45 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P49
DESCRIPTION: Groundwater sample obtained from 1913 14th Street

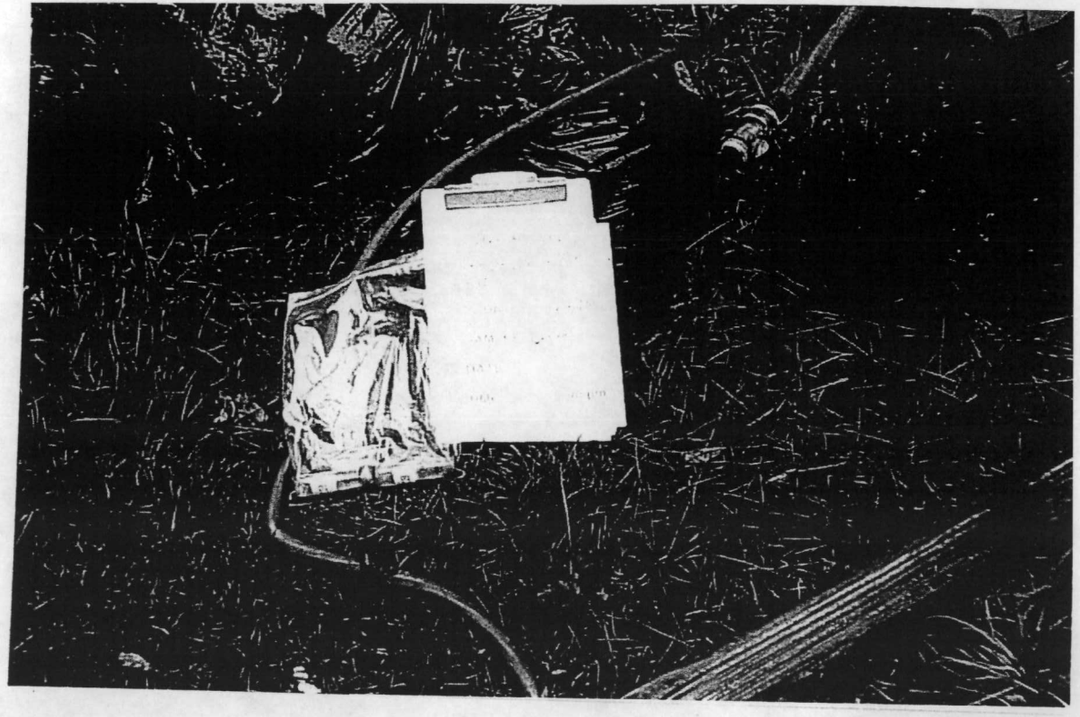


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 3:45 pm
WEATHER: Cloudy; 20s
SAMPLE ID # E2P58
DESCRIPTION: Picture shows the area where sample E2P58 was obtained



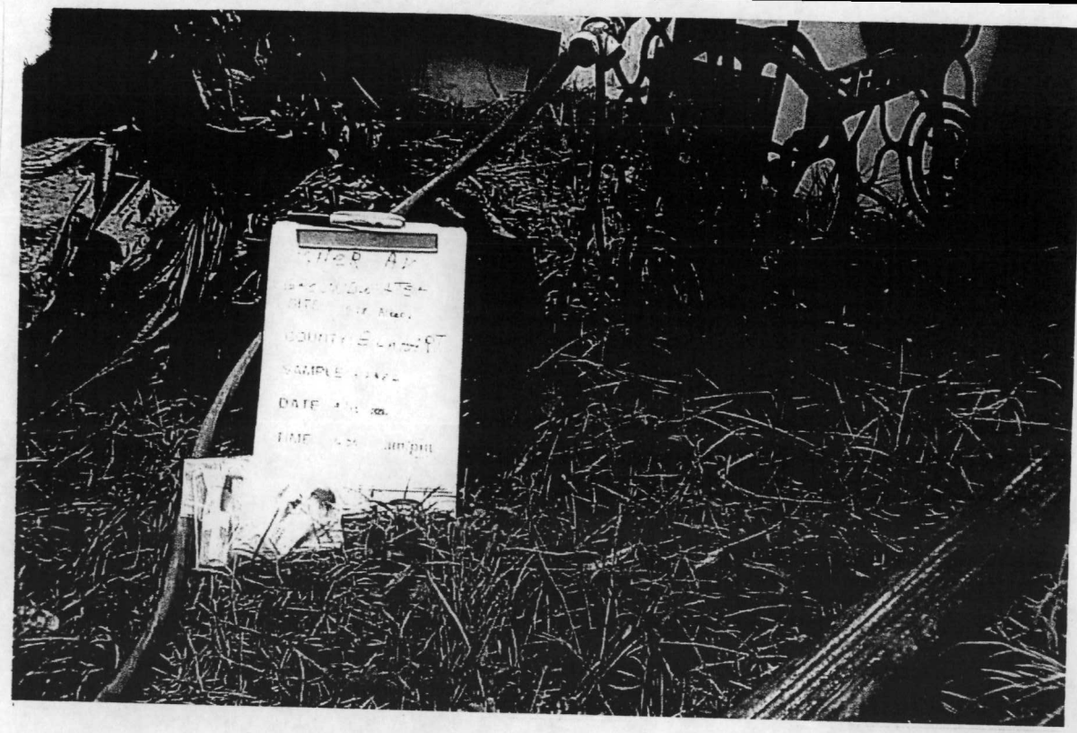
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 3:45 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P58
DESCRIPTION: Groundwater sample obtained from 2418 S 19th

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 5:30 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2NX4
DESCRIPTION: Picture shows the area where groundwater sample E2NX4 was obtained



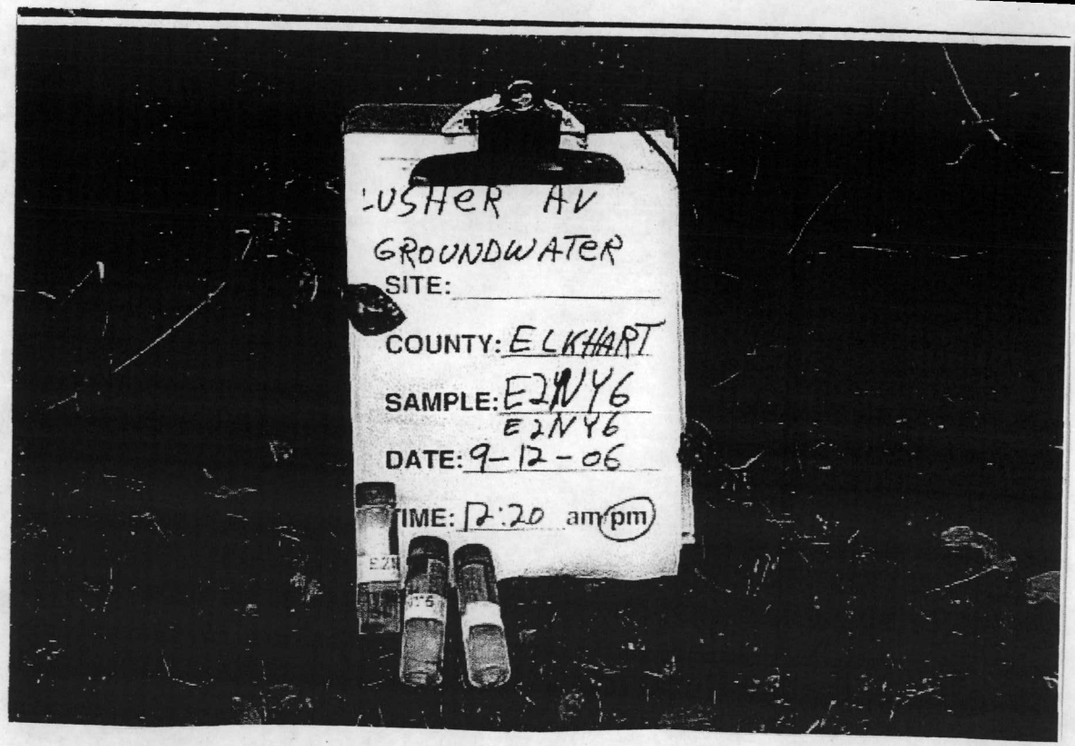
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 5:30 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NX4
DESCRIPTION: Groundwater sample obtained from 1520 Albany

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 5:30 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID#E2NZ2
DESCRIPTION: Picture shows the area where groundwater sample E2NZ2 was obtained

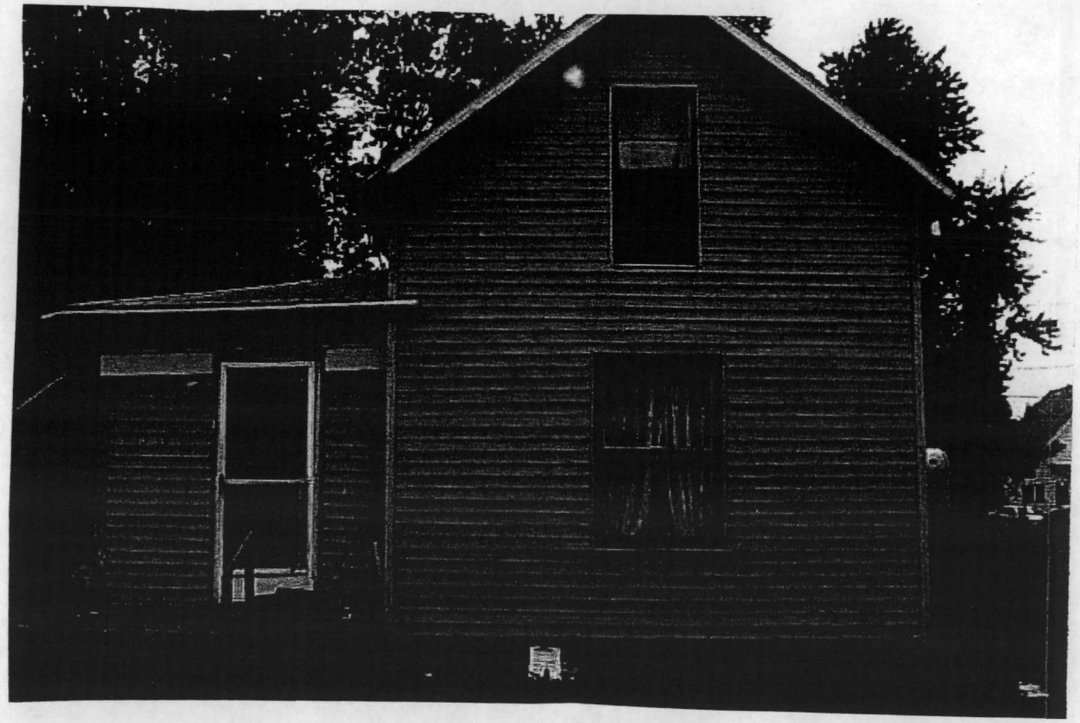


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 5:30 pm
WEATHER: Cloudy; 70s
SAMPLE ID # E2NZ2
DESCRIPTION: Duplicate of E2NX4 Groundwater sample obtained from 1520 Albany

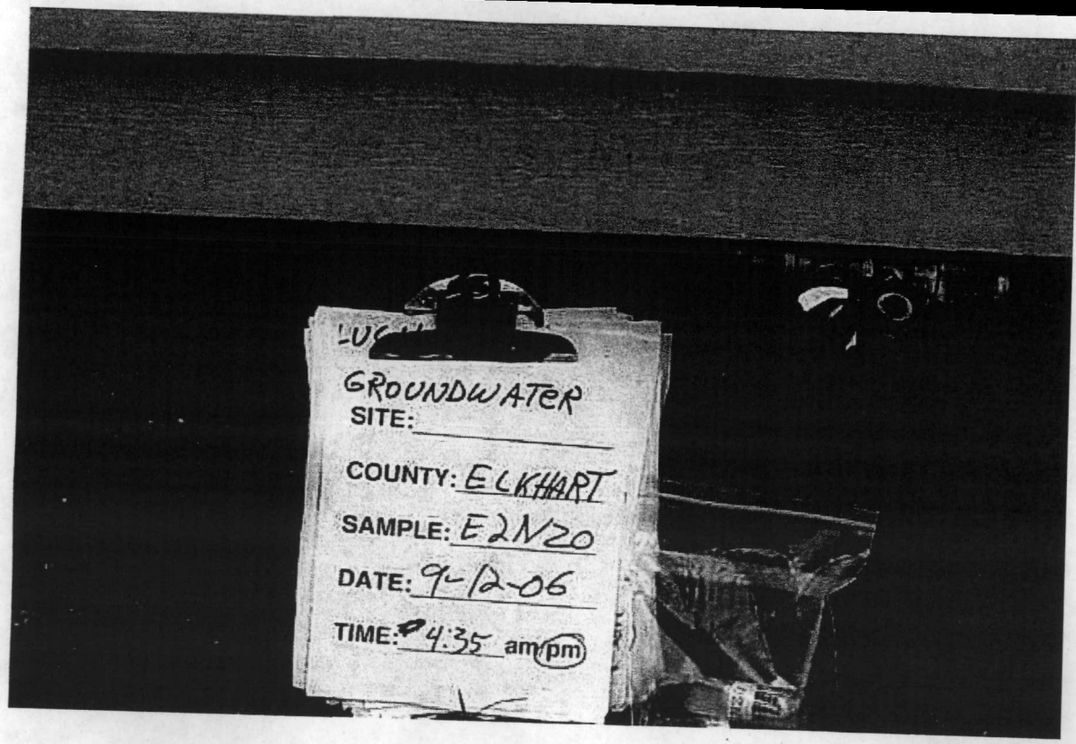
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 12:20 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2NY6
DESCRIPTION: Picture shows the area where groundwater sample E2NY6 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 12:20 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NY6
DESCRIPTION: Groundwater sample obtained from 1306 Concord

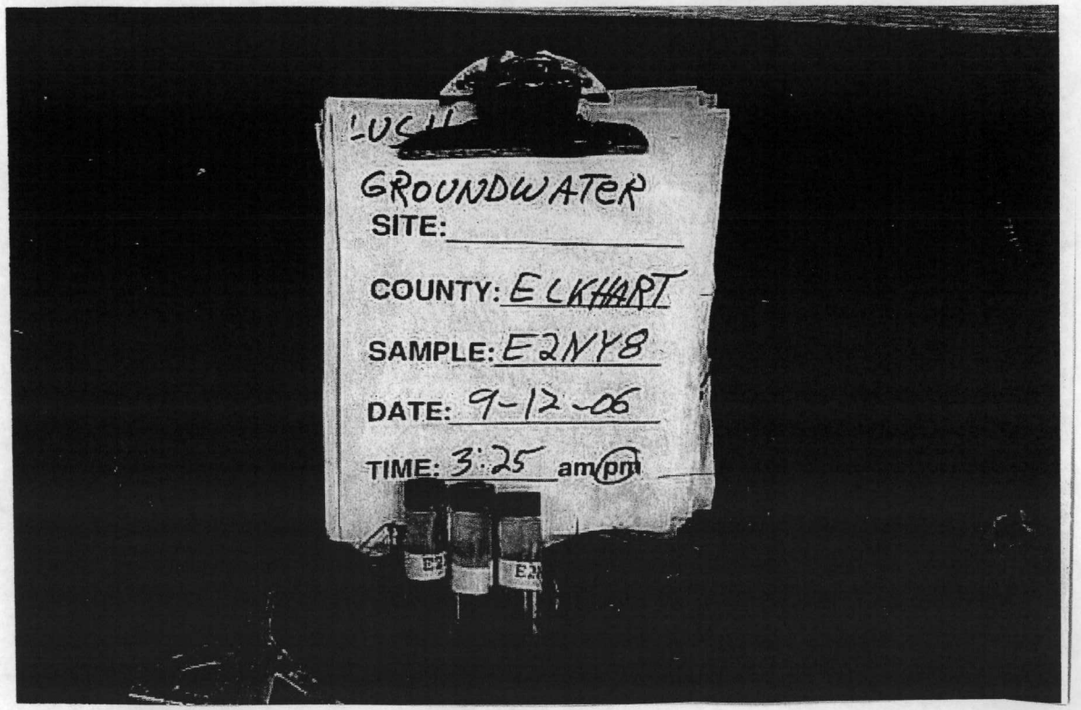


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:35 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2NZ0
DESCRIPTION: Picture shows the area where groundwater sample E2NZ0 was obtained

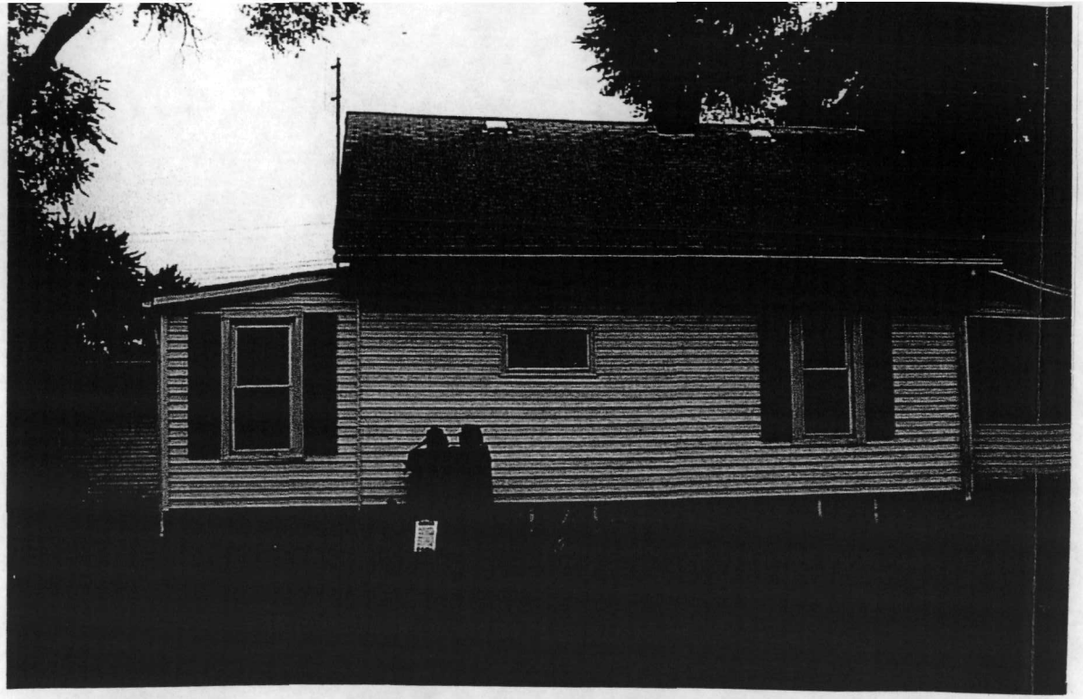


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:35 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NZ0
DESCRIPTION: Groundwater sample obtained from 1319 Concord

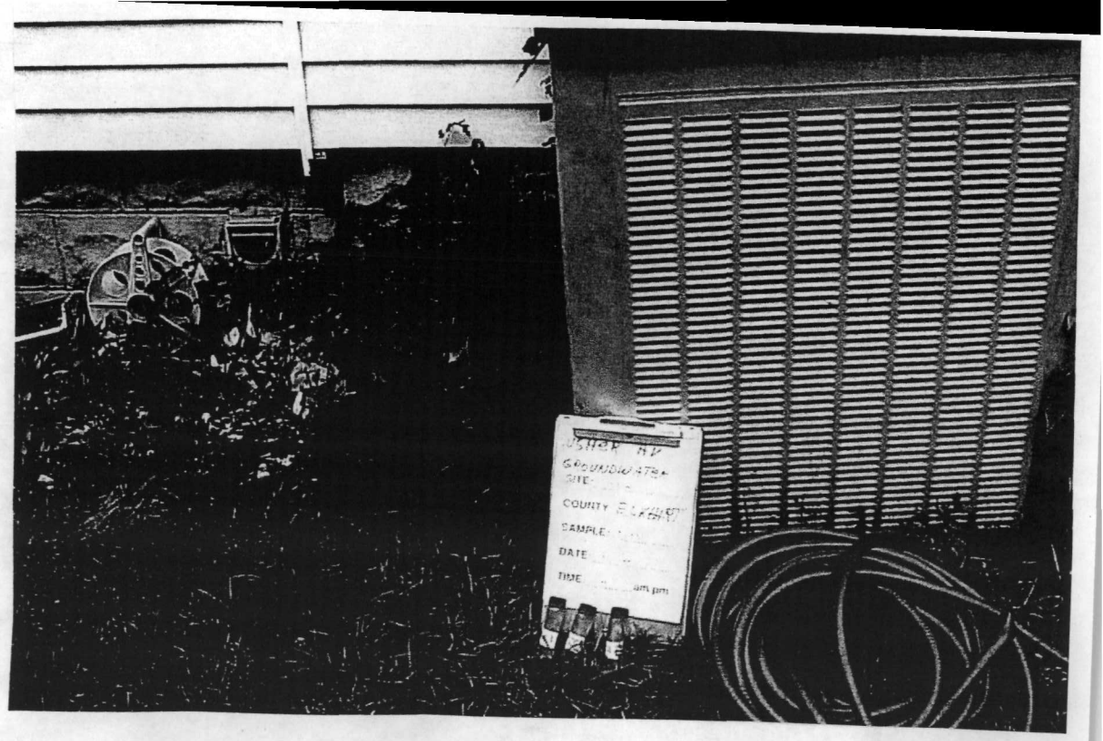
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 3:25 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2NY8
DESCRIPTION: Picture shows the area where groundwater sample E2NY8 was obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 3:25 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NY8
DESCRIPTION: Groundwater sample obtained from 1911 S 13th

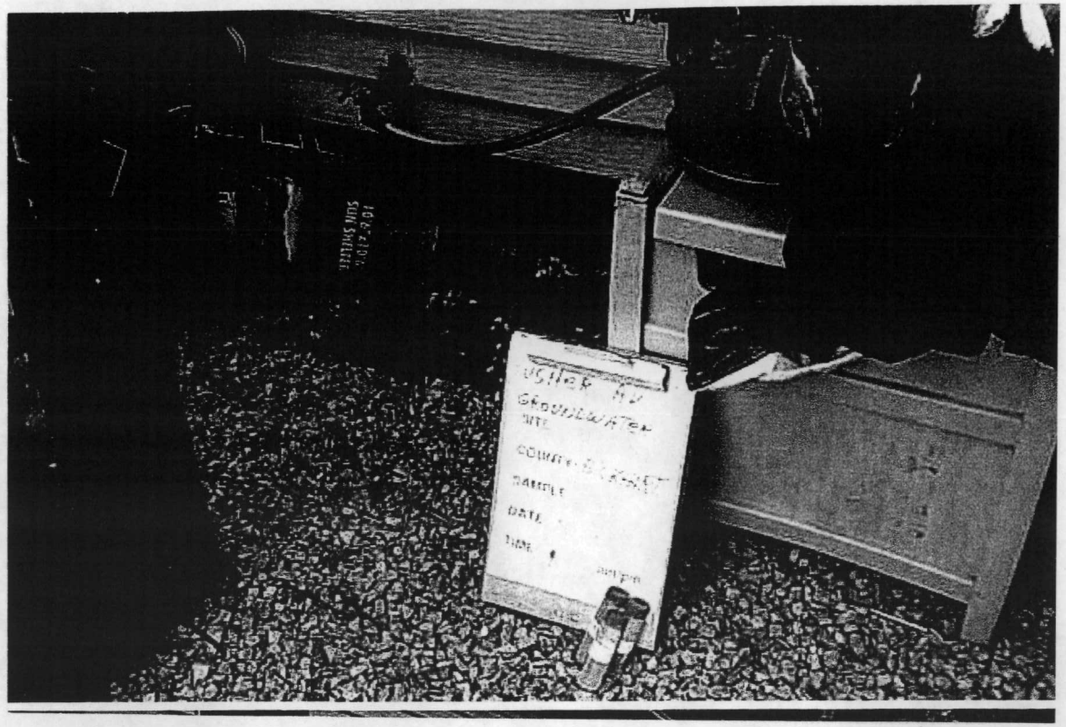


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:39 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2NX3
DESCRIPTION: Picture shows the area where groundwater sample E2NX3 was obtained



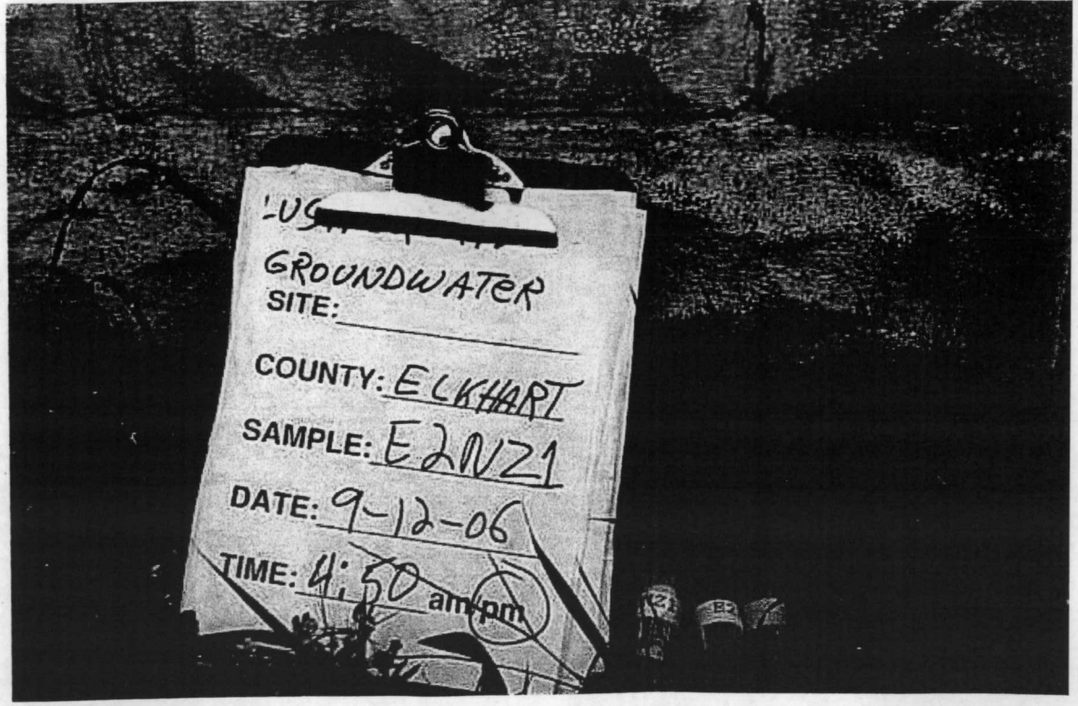
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:39 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NX3
DESCRIPTION: Groundwater sample obtained from 1519 Elliston

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:00 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2NY9
DESCRIPTION: Picture shows the area where groundwater sample E2NY9 was obtained

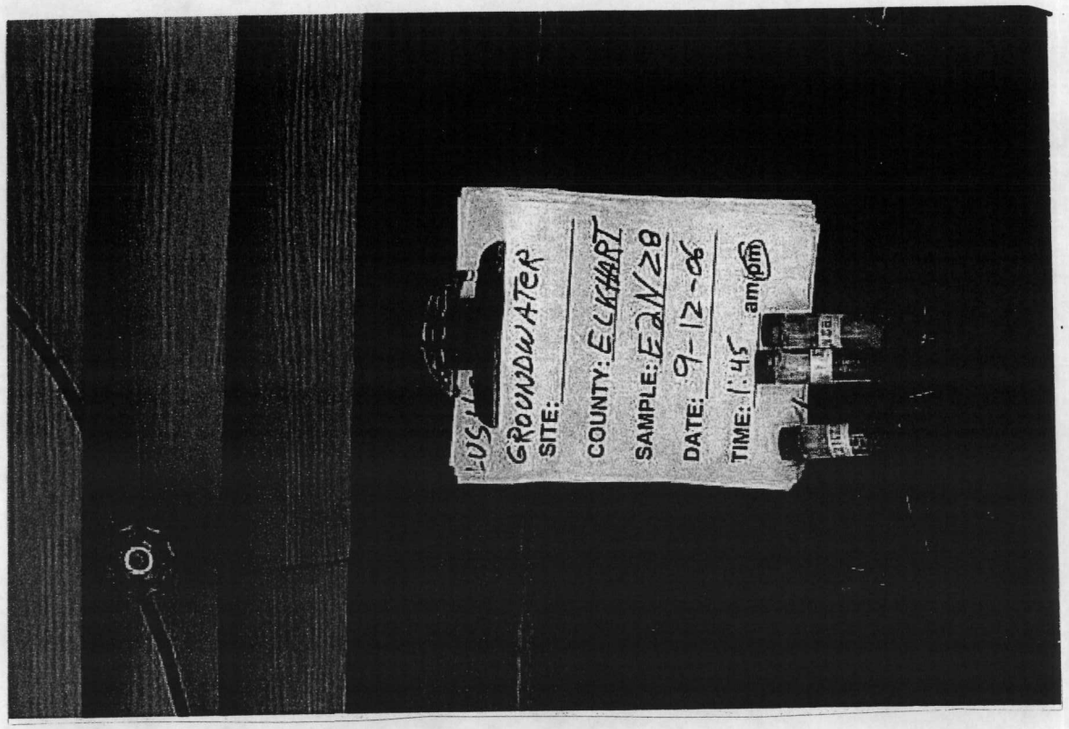


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:00 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NY9
DESCRIPTION: Groundwater sample obtained from 2033 13th Street

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:50 pm
WEATHER: Cloudy; 70s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2NZ1
DESCRIPTION: Picture shows the area where groundwater sample E2NZ1 was obtained

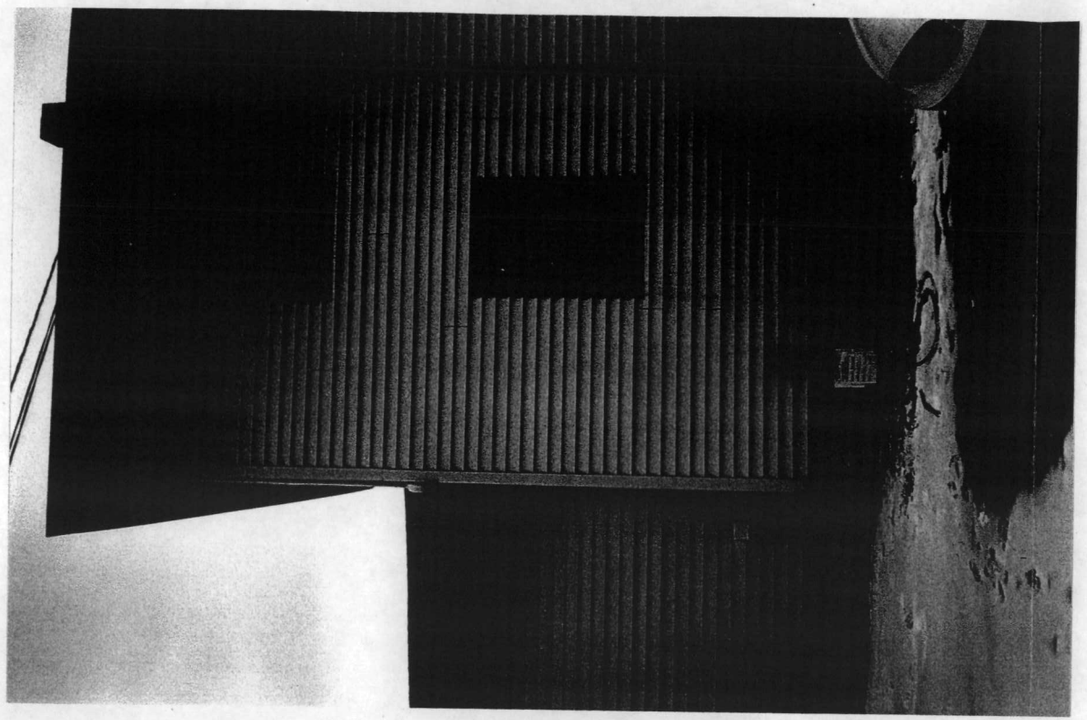


SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 4:50 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NZ1
DESCRIPTION: Groundwater sample obtained from 1334 Concord



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 1:45 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NZ8
DESCRIPTION: Groundwater sample obtained from 1214 Concord.

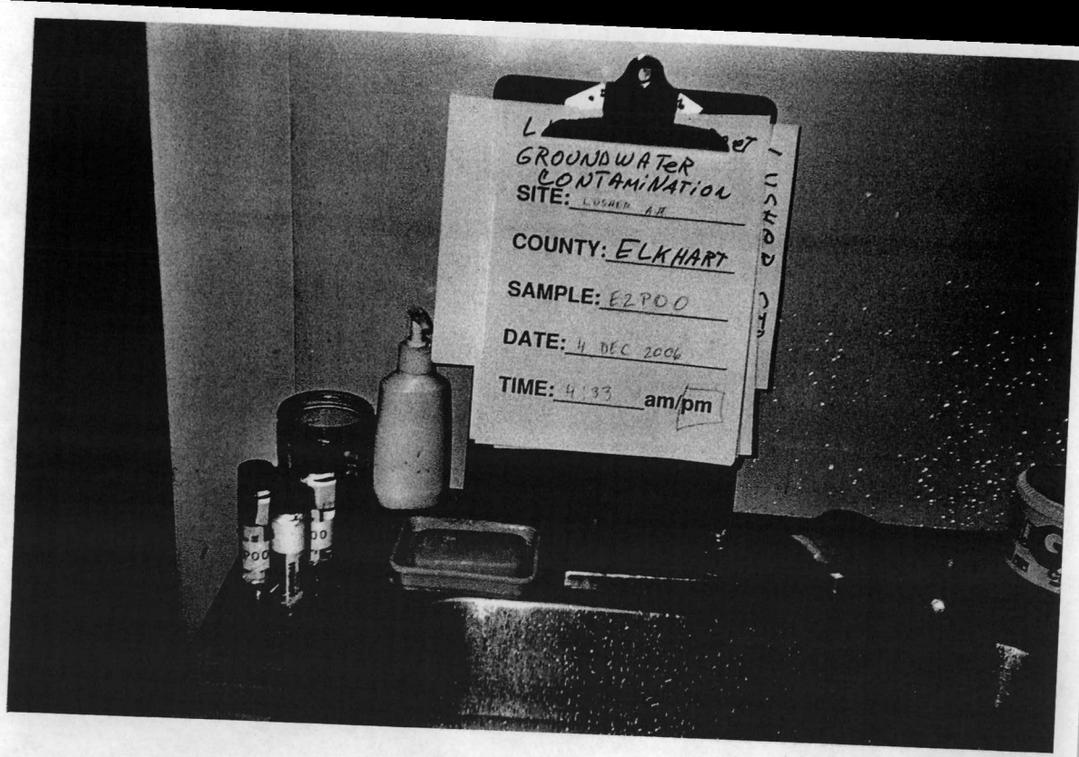
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 9/12/06
TIME: 2:00 pm
WEATHER: Cloudy; 70s
SAMPLE ID: E2NX0
DESCRIPTION: Groundwater sample obtained from 1421 Lamar Ct.



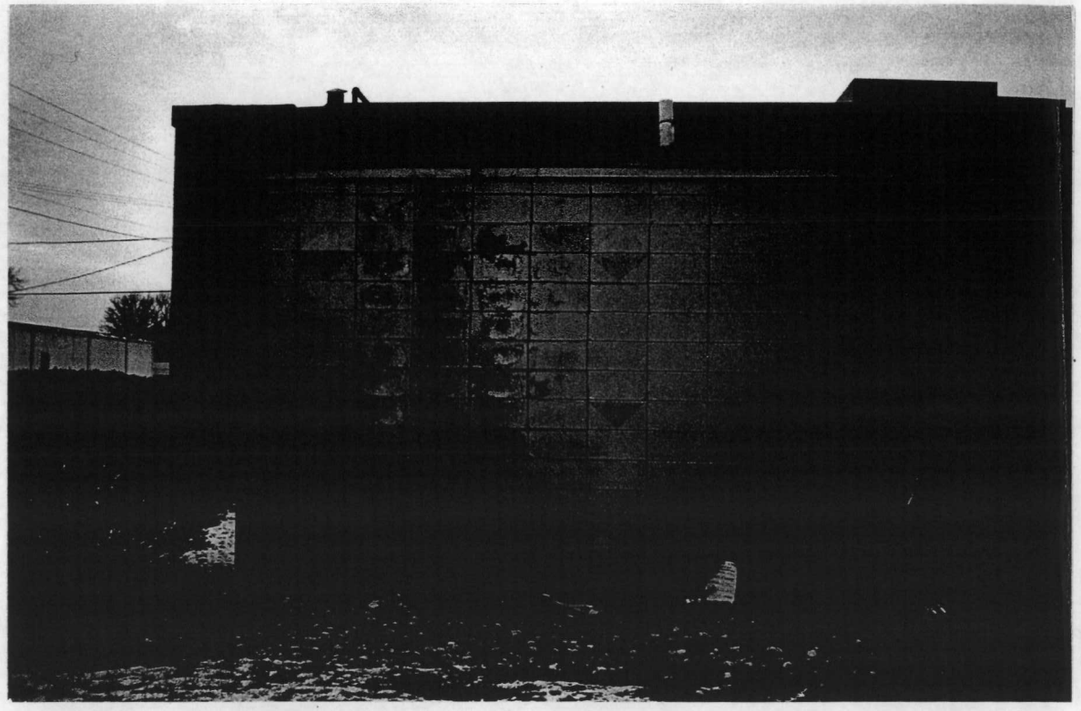
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 4:55 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P06
DESCRIPTION: Picture shows the area where groundwater sample E2P06 was obtained

SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 4:55 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P06
DESCRIPTION: Groundwater sample obtained from 2316 West Borneman

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 4:33 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P00
DESCRIPTION: Picture shows the area where groundwater sample E2P00 was obtained



SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 4:33 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P00
DESCRIPTION: Groundwater sample obtained from 2317 18th Street



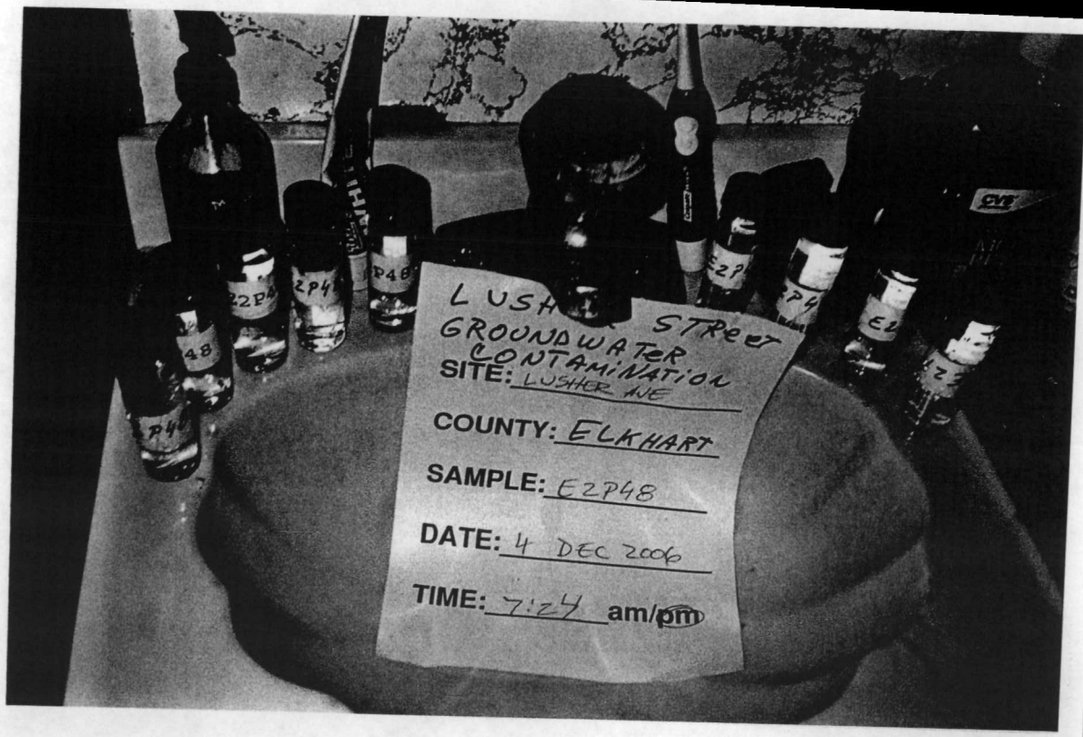
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:05 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P08
DESCRIPTION: Picture shows the area where groundwater sample E2P08 was obtained

SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:05 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P08
DESCRIPTION: Groundwater sample obtained from 1840 Borneman

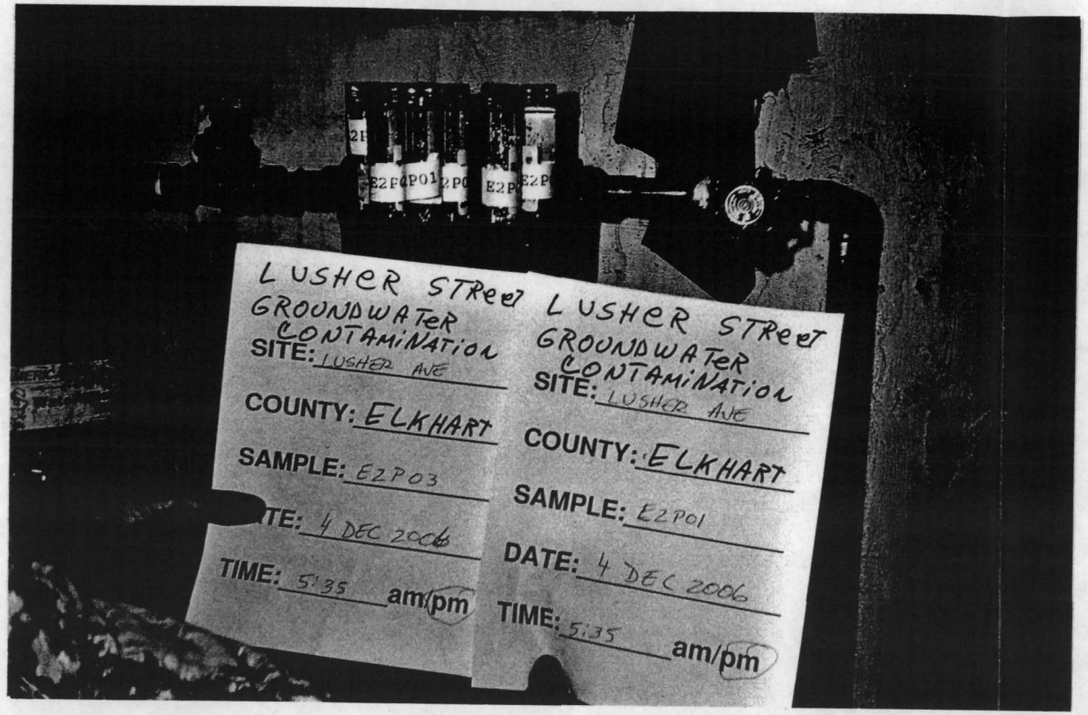
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 6:46 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P47
DESCRIPTION: Picture shows the area where groundwater sample E2P46 was obtained

SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 6:46 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P47
DESCRIPTION: Groundwater sample obtained from 2215 West Indiana

SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:08 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P04
DESCRIPTION: Groundwater sample obtained from 1839 West Borneman

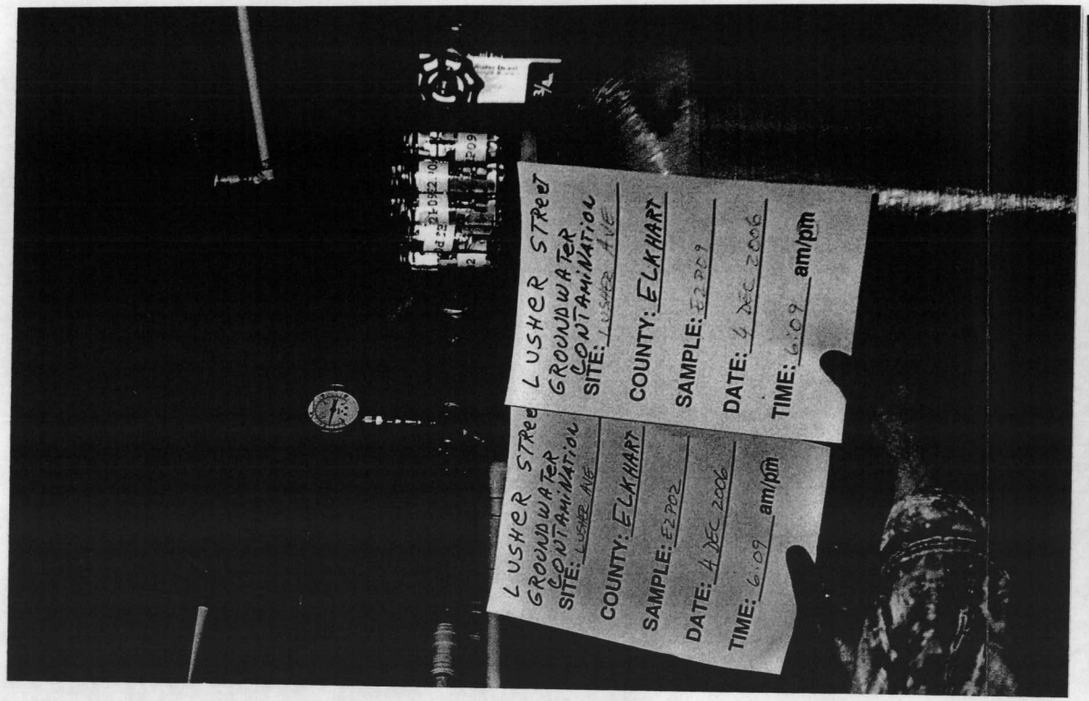


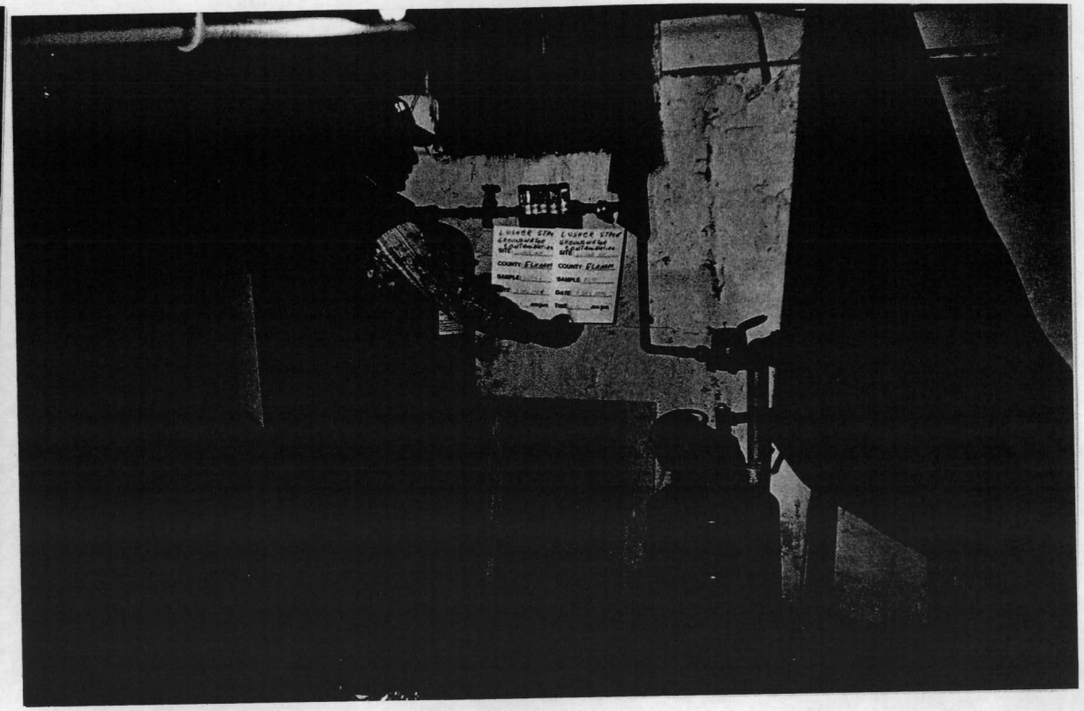
SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 7:24 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P48
DESCRIPTION: Groundwater sample obtained from 1825 Leinenger



SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:35 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P01, E2P03
DESCRIPTION: Groundwater sample obtained from 1619 Avalon St.

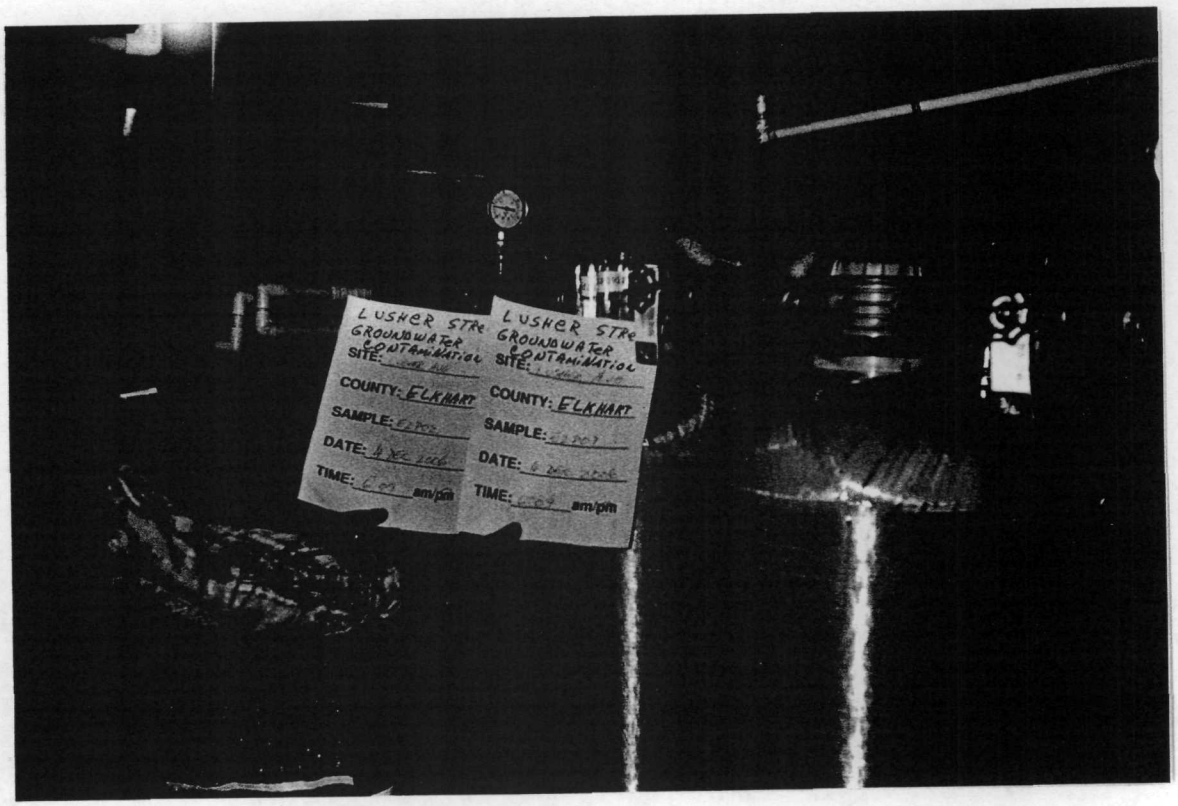
SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:08 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P04
DESCRIPTION: Picture shows the area where groundwater sample E2P04 was obtained





SITE: Lusher Street Groundwater Contamination Site
EPA ID: IND982073785
DATE: 12/5/06
TIME: 6:09 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P02
DESCRIPTION: Groundwater sample obtained from 1544 Avalon

SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 5:35 pm
WEATHER: Cloudy; 20s
PHOTO BY: Mark Jaworski
SAMPLE ID: E2P01, E2P03
DESCRIPTION: Picture shows the area where groundwater samples E2P01 and E2P03 were obtained



SITE: Lusher Avenue
EPA ID: IND982073785
DATE: 12/5/06
TIME: 6:09 pm
WEATHER: Cloudy; 20s
SAMPLE ID: E2P02
DESCRIPTION: Picture shows the area where groundwater sample E2P02 was obtained

Appendix K
Chemical Analysis (Sample Event #1)

State Form 4336

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

OFFICE MEMORANDUM

Date: July 20, 2006

To: Kenneth C. McDaniel
OLQ State Cleanup Group (Immediate Removal)

Thru: Fran Metcalfe
Barry Steward

From: James P. Caylor
OLQ Chemistry Section

Subject: Analytical Results for Lusher Avenue Residential Wells
Elkhart, Elkhart County, Indiana
Site # 0000028
Sampled: June 13-14, 2006
Sample Numbers: LQ3542 – LQ3568
Severn Trent Laboratories

The analytical results for the samples identified above have been validated according to the quality criteria contained in BAA 2-003 and "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846) Third Edition, Update III. Based on the evaluation, it has been determined that the results are acceptable for use. The data is acceptable for the sampling event project goal. Trichloroethene was detected above the appropriate drinking water maximum contaminant level (MCL) in the following samples.

LQ3556 – 1510 Flake Street
LQ3557 – 1529 Flake Street
LQ3558 – 1527 Flake Street
LQ3559 – 1511 Flake Street
LQ3560 – 1665 West Franklin Street

This memorandum should remain attached to the original laboratory reports for reference.

General Comments:

The purpose of this event was to sample the drinking water to indicate the presence or absence of contamination in homes above the MCLs. The collected drinking water samples were analyzed for volatile organic compounds (VOCs).

Sampling Quality Assurance/Quality Control:

Field documentation did allow for interpretation of the data. Field sheets for each sample were available with appropriate information.

Field duplicate samples are used to establish the representativeness of field sampling (i.e., the homogeneity and sample variability). A field duplicate was collected from samples LQ3552 and

LQ3553 and samples LQ3565 and LQ3566. The drinking water duplicate samples for this study were in good agreement.

Field blanks (trip and/or equipment) are used to identify sample contamination resulting from sampling equipment, sample containers, chemical preservatives, and the handling and transportation of samples. The trip blank was collected and analyzed for VOCs. No VOCs were detected above the reporting limit. The equipment blank was not required for this sampling event since the drinking water samples were collected directly into sample containers.

Some of the samples (LQ3544 and LQ3560) in this sampling event were collected from inside the home from the bathroom and hand washing sink area. If the faucet was equipped with an aerator or the water passes through a water softener, this could affect the detection of VOCs and the results could be biased low. Since the field documentation does not identify/clarify this issue, the results for these samples are estimated, bias low. Also, samples were collected from a garden hose (LQ3552, LQ3553, and LQ3556) and this could bias the results. This is inappropriate protocol for collection of drinking water samples and maybe biased.

Laboratory Quality Assurance/Quality Control:

The laboratory performed and submitted all quality assurance/quality control (QA/QC) measures necessary to validate the analytical results for this sampling event. The data was determined to be acceptable. Based on the validation of the analytical results, the following comments and/or qualifications are made regarding the data.

Volatile Organic Compounds:

The collected drinking water samples were analyzed for VOCs by SW-846 Method 8260B and the QA/QC was in control.

Results:

Volatile Organic Compounds:

Trichloroethene was detected in the drinking water samples LQ3556, LQ3557, LQ3558, LQ3559, and LQ3560 from 0.027 mg/L to 0,099 mg/L at 0.075 mg/L that is above the MCL of 0.005 mg/L.

Cis-1, 2-dichloroethene, 1,1-dichloroethane, trans-1,2,-dichloroethene, 1,1-dichloroethene, chloroform, bromodichloromethane were detected in various drinking water samples with 1,1,1-trichloroethane being detected in almost all drinking water samples. These detections are below the appropriate MCLs. Trichlorofluoromethane was detected in some of the drinking water samples. There is no MCL for trichlorofluoromethane.

Conclusions:

The data is acceptable for the sampling event project goal. Trichloroethene was detected above the appropriate drinking water MCL in samples LQ3556 – 1510 Flake Street, LQ3557 – 1529 Flake Street, LQ3558 – 1527 Flake Street, LQ3559 – 1511 Flake Street, and LQ3560 – 1665 West Franklin Street. Breakdown products of trichloroethene were detected in some of the drinking water samples from Lusher Avenue sampling event (See attached Table).

Attachments

OLQ CHEMISTRY - REFER TO ATTACHED MEMO

Volatile Organic Analysis

Site Name: Lusher Avenue
Site Number: 28
Location: Elkhart, Elkhart County, Indiana
Date Sampled: June 13-14,2006
Date Reported: 5-Jul-06
Sample Numbers: LQ3542 to LQ3568
Lab: Severn Trent Laboratories

Water

UNITS: **mg/L**

Sample #		Type/ID#	trichlorofluoro-	1,1,1-trichloro-	1,1-dichloro-	cis-1,2-dichloro-	Trichloro-	trans-1,2-dichloro-	1,1-dichloro-	Chloroform	Bromodichloro-	
Lab	IDEM		methane	ethane	ethane	ethene	ethene	ethene	ethene		methane	
		D.L.>	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	
Maximum Contaminant Level >			*No MCL*	*0.2*	*No MCL*	*0.07*	*0.005*	*0.1*	*0.007*	*0.08*	*0.08*	
247124-1	LQ3543	Drinking Water										
247124-2	LQ3544	Drinking Water										
247124-3	LQ3545	Drinking Water	0.0022	0.0059								
247124-4	LQ3546	Drinking Water										
247124-5	LQ3547	Drinking Water		0.0062								
247124-6	LQ3548	Drinking Water		0.0091								
247124-7	LQ3549	Drinking Water		0.0093								
247124-8	LQ3550	Drinking Water		0.0099								
247124-9	LQ3551	Drinking Water										
247124-10	LQ3552	Drinking Water		0.0088								
247124-11	LQ3553	Dup. of LQ3552		0.0082								
247124-12	LQ3554	Drinking Water		0.002	0.0038							
247124-13	LQ3555	Drinking Water		0.001								
247124-14	LQ3542	Drinking Water	0.001	0.011	0.00098 J							
247125-1	LQ3556	Drinking Water		0.0041		0.0042	0.075					
247125-2	LQ3557	Drinking Water		0.031	0.0091	0.014	**0.053**	0.0053				
247125-3	LQ3558	Drinking Water		0.06	0.0083	0.017	**0.078**	0.0062	0.0015			
247125-4	LQ3559	Drinking Water		0.04	0.0037	0.0098	**0.099**	0.0037	0.0012			
247125-5	LQ3560	Drinking Water		0.0047			**0.027**					
247125-6	LQ3561	Drinking Water					0.0011					
247125-7	LQ3562	Drinking Water	0.0011	0.0047								
247125-8	LQ3563	Drinking Water					0.0015					
247125-9	LQ3564	Drinking Water								0.011	0.0057	
247125-10	LQ3565	Drinking Water										
247125-11	LQ3566	Dup. of LQ3565										
247125-12	LQ3567	Drinking Water	0.0014	0.0046								
247125-13	LQ3568	Trip Blank										

* BLANK (Type indicated)
** FIELD DUPLICATE

Empty Box indicates NON-DETECTABLE
NR = NOT RUN
NA=NOT AVAILABLE

Estimated
Bold = above Maximum Contaminant Level

Appendix L
Chemical Analysis (Sample Event #2)

State Form 4336

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

INDIANAPOLIS

OFFICE MEMORANDUM

Date: September 21, 2006

To: Kenneth C. McDaniel
OLQ State Cleanup Group (Immediate Removal)

Thru: Fran Metcalfe
Barry Steward

From: James P. Caylor
OLQ Chemistry Section

Subject: Analytical Results for Lusher Avenue Residential Wells
Elkhart, Elkhart County, Indiana
Site # 0000028
Sampled: August 16, 2006
Sample Numbers: LQ3412 to 27, LQ3431-32, LQ3435, LQ3437 to 46
Severn Trent Laboratories

The analytical results for the samples identified above have been validated according to the quality criteria contained in BAA 2-003 and "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846) Third Edition, Update III. Based on the evaluation, it has been determined that the results are acceptable for use. The data is acceptable for the sampling event project goal. Trichloroethene was detected above the appropriate drinking water maximum contaminant level (MCL) in two resident wells. 1, 1-dichloroethene and 1, 1-dichloroethane was detected above the appropriate RISC Residential Default Closure Level in one residential well (See Attached Table). This memorandum should remain attached to the original laboratory reports for reference.

General Comments:

The purpose of this event was to sample the drinking water to indicate the presence or absence of contamination in homes above the MCLs. The collected drinking water samples were analyzed for volatile organic compounds (VOCs).

Sampling Quality Assurance/Quality Control:

Field documentation did allow for interpretation of the data. Field sheets for each sample were available with appropriate information.

Field duplicate samples are used to establish the representativeness of field sampling (i.e., the homogeneity and sample variability). Field duplicates were collected from samples LQ3423 and LQ3424 and samples LQ3343 and LQ3444. The drinking water duplicate samples for this study were in good agreement.

Field blanks (trip and/or equipment) are used to identify sample contamination resulting from sampling equipment, sample containers, chemical preservatives, and the handling and transportation of samples. Two trip blanks were collected and analyzed for VOCs. No VOCs were detected above the reporting limit. However, the laboratory reported that the trip blank contained small bubbles. The sample receipt report indicates that one cooler was received by the laboratory. The trip blanks would have been in the same cooler. The trip blank with bubbles and the other trip blank were non-detect. Since they were packed in the same cooler, the analytical results are not affected. The equipment blank was not required for this sampling event since the drinking water samples were collected directly into sample containers.

Sample LQ3415 was collected from a garden hose and may have biased the results. This is inappropriate protocol for collection of drinking water samples.

Field sheets for samples LQ3412, LQ3415, LQ3417, LQ3418, LQ3421, LQ3423, LQ3424, LQ3425, LQ3437, LQ3440, LQ3441, LQ3442, LQ3443, LQ3444, and LQ3445 do not indicate if the water softener was present and/or bypassed at the time of sample collection at these sample locations. The analytical results for these samples are estimated.

Laboratory Quality Assurance/Quality Control:

The laboratory performed and submitted all quality assurance/quality control (QA/QC) measures necessary to validate the analytical results for this sampling event. The data was determined to be acceptable. Based on the validation of the analytical results, the following comments and/or qualifications are made regarding the data.

Volatile Organic Compounds:

The collected drinking water samples were analyzed for VOCs by SW-846 Method 8260B.

The continuing calibration verification percent difference was out of control for acrolein (53 %) and vinyl acetate (91 %). The results for acrolein and vinyl acetate are estimated. These compounds were not detected in these samples.

The Laboratory Control Sample (LCS) percent recovery (% R) for vinyl acetate (188 %) and dichlorodifluoromethane (134 %) are out of control, biased high. The results for these compounds are estimated, biased high. These compounds were not detected in these samples and do not affect the analytical results.

The surrogate toluene-d8 recovery (62 %) is out of control for sample LQ3416. However, the three remaining surrogate are in control and the results for sample LQ3416 are not affected.

Results:

Volatile Organic Compounds:

Trichloroethene was detected in the drinking water samples LQ3417 (0.06 mg/L) and LQ3431 (0.053 mg/L) that exceeded the MCL of 0.005 mg/L.

1,1-dichloroethane (0.012 mg/L) and 1,1-dichloroethene (0.0034 mg/L) were detected in drinking water sample LQ3423 that exceeded the RISC Residential Default Closure Level of 0.007 mg/L and 0.0019 mg/L, respectively.

1,1,1-trichloroethane was detected in almost all drinking water samples. These detections are below the appropriate MCLs.

Bromodichloromethane was detected in drinking water samples LQ3416 (0.0072 mg/L) and LQ3422 (0.0098 mg/L). This does not exceed the RISC Residential Default Closure Level of 0.08 mg/L for bromodichloromethane.

2-butanone (MEK) was detected in drinking water sample LQ3417 (0.0072 mg/L). This does not exceed the RISC Residential Default Closure Level of 8.4 mg/L for 2-butanone.

Conclusions:

The data is acceptable for the sampling event project goal. Trichloroethene was detected above the appropriate drinking water maximum contaminant level (MCL) in two resident wells. 1, 1-dichloroethene and 1, 1-dichloroethane was detected above the appropriate RISC Residential Default Closure Level in one residential well (See Attached Table).

It is recommended that the area were these samples were collected be expanded to include more residences. It is recommended that the water systems affected be equipped with an alternate water supply or carbon filter systems.

Attachments

OLQ CHEMISTRY - REFER TO ATTACHED MEMO

Volatile Organic Analysis

Site Name: **Lusher Avenue** **Water**
Site Number: 0000028
Location: Elkhart, Elkhart County, Indiana
Date Sampled: 16-Aug-06
Date Reported: 31-Aug-06
Sample Numbers: LQ3412 to 27, LQ3431-32, LQ3435, LQ3437 to 46
Lab: Seven Trent Laboratories UNITS: **mg/L**

Sample #		Type/ID#	1,1,1-trichloro-	bromodichloro-	2-butanone	trichloro-	1,1-dichloro-	1,1-dichloro-				Tentively
Lab	IDEM		ethane	methane	(MEK)	ethene	ethene	ethane				Identified
		D.L.>	0.001	0.001	0.001	0.001	0.001	0.001				Compounds
Maximum Contaminant Level or # = RISC Residential Default Closure Level			*0.2*	*# 0.08*	*# 8.4*	*0.005*	*# 0.007*	*# 0.0019*				
248234-1	LQ3412	Nick Bierbaum 1817 Markle Ave.										
248234-2	LQ3413	George Smith 2317 18th Street										
248234-3	LQ3414	Quad 4 Plastics 1840 Borneman Ave.	0.0037									
248234-4	LQ3415	2418 South 19th Ave.										
248234-5	LQ3416	International RV World 2316 West Borneman Ave.	0.0081	0.0072								0.0124
248234-6	LQ3417	Bob Denton 1715 Fieldhouse Ave.	0.0028		0.0072	**0.06**						
248234-7	LQ3418	Mike Hurtz (Renter) 1800 Markle Ave.				0.0022						
248234-8	LQ3419	Chris Bolinger 1810 Markle Ave.										
248234-9	LQ3420	Randy Lemins 1819 Markle Ave.										0.0026
248234-10	LQ3421	Gregg Plecher 1822 Markle Ave.										
248234-11	LQ3422	2300 South 17th Ave.	0.012	0.0098								0.0014
248234-12	LQ3423	**Miguel Sotelo 2111 17th Street	0.15				0.012	0.0034				
248234-13	LQ3424	**Duplicate of LQ3423	0.13				0.013	0.0037				
248234-14	LQ3425	Tom Rosinski 2220 19th Street	0.0037			0.0015						
248234-15	LQ3426	Trip Blank										0.0026
248234-16	LQ3427	Terry Nicely 1825 Leininger	0.0021									
248234-17	LQ3431	Dora Ann Saddler 1741 Fieldhouse Ave.				**0.053**						0.0025
248234-18	LQ3432	Robert E. Bemiller 1645 Fieldhouse Ave.	0.015									
248234-19	LQ3435	Helen Miller 1800 Leininger										
248234-20	LQ3437	Mary Papa 1811 Leininger Ave.										
248234-21	LQ3438	Jimmy Brown 1816 Leininger Ave.	0.0042									
248234-22	LQ3439	Scott Dougall 1839 Borneman Ave.	0.0026									
248234-23	LQ3440	Lillian Mishler 1807 Bornemen Ave.										
248234-24	LQ3441	Walters Auto 1903 Leininger										
248234-25	LQ3442	Ronald Bradshaw 1831 Leininger										
248234-26	LQ3443	**Glenn Marchbanks 1814 Leiningwer	0.0064									
248234-27	LQ3444	**Duplicate of LQ 3443	0.0062									
248234-28	LQ3445	E. William Miller 1807 Leininger										
248234-29	LQ3446	Trip Blank										

* BLANK (Type indicated)
** FIELD DUPLICATE

Empty Box indicates NON-DETECTABLE
NR = NOT RUN NA=NOT AVAILABLE

Estimated
Bold = above Maximum Contaminant Level
or # = RISC Groundwater Residential Default Closure Level

Appendix M
Chemical Analysis (Sample Event #3)

DATE: October 27, 2006

Indiana Dept of Environmental Management
Office of Environmental/Site Investigation Section
ATTN: Mark Jaworski
P.O. Box 6015
100 N. Senate Avenue
Indianapolis, IN 46206-6015

SITE NAME: Luster Street Groundwater Contamination (IN)

CASE #	LAB	SAMPLES	SDG	MATRIX
35735	Mitkem	17	E2NX0	water

Upon receipt of data, please check each package for completeness and note any missing deliverables below.

Send this form back to Sylvia Griffin, Data Management Coordinator after filling in the blanks below.

Data Received by:_____ Date:_____

PROBLEMS:

Please indicate if data is complete, and note if there are any deliverables missing from the cases noted above.

_____

_____

Received by Data Management Coordinator, CRL for file.

Signature:_____ Date:_____

FROM: **U.S. EPA - Region 5**
Central Regional Laboratory
536 S. Clark, 10th Floor
Chicago, IL 60605

Sent By: Pat Johnson
Data Coordinator
ESAT Region 5 **TechLaw**

001

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
SUPERFUND DIVISION

DATE:

SUBJECT: Review of Data
Received for Review on: October 4, 2006

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Field Services Section

for Steve Ostrodka
Richard L Byrd
10/25/06

TO: Data User: IDEM

We have reviewed the data for the following case:

SITE Name: Luster Street Groundwater Contamination (IN)

Case Number: 35735 SDG Number: E2NX0

Number and Type of Samples: 17 waters (Trace VOAs)

Sample Numbers: E2NX0 to E2NX4, E2NY0, E2NY6 to E2NY9, E2NZ0 to E2NZ2 and E2NZ6 to E2NZ9

Laboratory: Mitkem Corporation Hrs for Review:

Following are our findings:

the data are usable and acceptable with the qualifications described in the attached narrative.

Richard L Byrd

CC: Howard Pham
Region 5 TPO
Mail Code: SRT-4J

RECEIVED
NOV 08 2006
DEPARTMENT OF
ENVIRONMENTAL MANAGEMENT
OFFICE OF LAND QUALITY

002

Case Number: 35735 SDG Number: E2NX0
Site Name: Luster Street Groundwater Contamination (IN) Laboratory: Mitkem Corp.

Below is a summary of the out-of-control audits and the possible effects on the data for this case:

Seventeen (17) preserved water samples labeled E2NX0 through E2NX4, E2NY0, E2NY6 through E2NY9, E2NZ0 through E2NZ2 and E2NZ6 through E2NZ9 were collected on September 12, 2006 and were received on September 14, 2006 intact. The samples were properly cooled at 3 and 4°C. The samples were analyzed for only trace volatile target analytes. All samples were analyzed according to CLP SOW SOM01.1 and reviewed according to the NFG for SOM01.1 and the ESAT Region 5 Organic Data Validation Criteria Matrix.

Sample E2NZ6 was designated by the samplers to be used for the Trace VOA MS/MSD analyses.

No samples were identified as Trip Blanks or Field Blanks. Samples E2NX0 / E2NX1 (14:00); E2NX2 / E2NZ0 (16:35) and E2NX4 / E2NZ2 (17:30) may be Field duplicate pairs. The Chain of Custody show the sample pairs being taken at the same date and time, but different station locations.

Reviewed by: Richard A Baltrus / Techlaw-ESAT
Date: October 23, 2006

Case Number: 35735 SDG Number: E2NX0
Site Name: Luster Street Groundwater Contamination (IN) Laboratory: Mitkem Corp.

1. HOLDING TIME

No problems were found.

2. GC/MS TUNING AND GC INSTRUMENT PERFORMANCE

No problems were found.

3. CALIBRATION

The following trace Volatile samples are associated with a continuing calibration whose initial calibration reported a Percent Relative Standard Deviation (%RSD) greater than the QC limit (30%). Detected results for this compound were not reported and the non-detected compound is qualified "UJ".

1,2,3-Trichlorobenzene
E2NX0, E2NX1, E2NX2, E2NX3, E2NX4, E2NX4DL, E2NY0, E2NZ0, E2NZ2, E2NZ6, E2NZ6MS, E2NZ6MSD, E2NZ7, E2NZ8, E2NZ9, VBLK5N, VBLK5P

The following trace Volatile samples are associated with a continuing calibration whose initial calibration reported a relative response factors (RRF) less than 0.005. Detected results for this compound were not reported and the non-detected compound is qualified "R".

1,4-Dioxane
E2NX0, E2NX1, E2NX2, E2NX3, E2NX4, E2NX4DL, E2NY0, E2NY6, E2NY7, E2NY8, E2NY9, E2NZ0, E2NZ1, E2NZ2, E2NZ2DL, E2NZ6, E2NZ6MS, E2NZ6MSD, E2NZ7, E2NZ8, E2NZ9, VBLK2H, VBLK2I, VBLK5N, VBLK5P, VHBLK2I

The following trace Volatile samples are associated with an opening continuing calibration with the percent difference (%D) greater than 30%. Detected results for this compound were not reported and the non-detected compound is qualified "UJ".

1,2,3-Trichlorobenzene
E2NX1, E2NX2, E2NX4, VBLK5N

The following trace Volatile samples are associated with a continuing calibration whose initial calibration reported a surrogate with relative response factors (RRF) less than 0.005. Detected compounds and non-detected compounds are not qualified based on the surrogate %RSD or RRF data alone.

1,4-Dioxane-d_8
E2NX0, E2NX1, E2NX2, E2NX3, E2NX4, E2NX4DL, E2NY0, E2NY6, E2NY7, E2NY8, E2NY9, E2NZ0, E2NZ1, E2NZ2, E2NZ2DL, E2NZ6, E2NZ6MS, E2NZ6MSD, E2NZ7, E2NZ8, E2NZ9, VBLK2H, VBLK2I, VBLK5N, VBLK5P, VHBLK2I

The following trace Volatile samples are associated with an opening/closing continuing calibration with relative response factors (RRF) less than 0.005. Detected results for this compound were not reported and the non-detected compound is qualified "R".

1,4-Dioxane
E2NX0, E2NX1, E2NX2, E2NX3, E2NX4, E2NX4DL, E2NY0, E2NY6, E2NY7, E2NY8, E2NY9, E2NZ0, E2NZ1, E2NZ2, E2NZ2DL, E2NZ6, E2NZ6MS, E2NZ6MSD, E2NZ7, E2NZ8, E2NZ9, VBLK2H, VBLK2I, VBLK5N, VBLK5P, VHBLK2I

The following trace Volatile samples are associated with an opening/closing continuing calibration with surrogate relative response factors (RRF) less than 0.005. Detected compounds and non-detected compounds are not qualified based on the surrogate %D or RRF data alone.

1,4-Dioxane-d_8
E2NX0, E2NX1, E2NX2, E2NX3, E2NX4, E2NX4DL, E2NY0, E2NY6, E2NY7, E2NY8, E2NY9, E2NZ0, E2NZ1, E2NZ2, E2NZ2DL, E2NZ6, E2NZ6MS, E2NZ6MSD, E2NZ7, E2NZ8, E2NZ9, VBLK2H, VBLK2I, VBLK5N, VBLK5P, VHBLK2I

4. BLANKS

The following trace Volatile samples have common contaminant analyte concentrations reported greater than the CRQL but less than 2 times the CRQL. The associated method blank has common analyte concentrations greater than the CRQL. Detected compounds are qualified "U". Non-detected compounds are not qualified. Report the sample concentrations.

Methylene Chloride
E2NX4DL, VHBLK2I

5. DEUTERATED MONITORING COMPOUND AND SURROGATE RECOVERY

The following trace Volatile samples have DMC/Surrogate recoveries above the upper limit of the criteria window. Detected results for these compounds are qualified "J" and the non-detected compounds are not qualified. Non-detects for Benzene and Trichloroethene are qualified "UJ" in sample E2NZ6 because of poor MS/MSD RPD recovery.

E2NX1
Dichlorodifluoromethane, Chloromethane, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Bromochloromethane, Chloroform, Trichloroethene, Toluene, Tetrachloroethene, Dibromochloromethane, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene, Bromoform, Isopropylbenzene

E2NX4
Dichlorodifluoromethane, Chloromethane, Bromomethane, Chloroethane, 1,1-Dichloroethane, Carbon Disulfide, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Cyclohexane,

Trichloroethene, Methylcyclohexane, 1,2-Dichloropropane, Bromodichloromethane, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene, Isopropylbenzene

E2NZ1
1,1-Dichloroethene, trans-1,2-Dichloroethene, 1,1-Dichloroethane, cis-1,2-Dichloroethene, Bromochloromethane, Chloroform, Dibromochloromethane, Bromoform

E2NZ2
Dichlorodifluoromethane, Chloromethane, Bromomethane, Chloroethane, Carbon Disulfide, Cyclohexane, Trichloroethene, Methylcyclohexane, 1,2-Dichloropropane, Bromodichloromethane, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene, Isopropylbenzene

E2NZ6
Benzene, Trichloroethene, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene, Isopropylbenzene

E2NZ6MS, E2NZ8
1,1-Dichloroethene, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene

E2NZ6MSD
1,1-Dichloroethene, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene, Trichloroethene, Toluene, Tetrachloroethene, Ethylbenzene, o-Xylene, m,p-Xylene, Styrene, Isopropylbenzene

E2NZ9
Dichlorodifluoromethane, Chloromethane, Bromomethane, Chloroethane, 1,1-Dichloroethene, Carbon Disulfide, trans-1,2-Dichloroethene, cis-1,2-Dichloroethene

The following trace Volatile samples have DMC/Surrogate recoveries below the lower limit of the criteria window and greater than 20%. Detected results for these compounds were not reported in the samples and the non-detected compounds are qualified "UJ". Non-detects for 1.4-Dioxane are qualified "R" because not all calibration criteria were met.

E2NY7, E2NY9
Cyclohexane, Methylcyclohexane, 1,2-Dichloropropane, Bromodichloromethane

E2NY6, E2NZ6MS, E2NZ8
1,4-Dioxane

6A. MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Sample E2NZ6 was designated by the samplers to be used for the VOA Trace MS/MSD analyses.

The percent RPD for the Matrix spike and Matrix spike duplicate for the compounds 1,1-Dichloroethene, Benzene and Trichloroethene are outside of the QC limit. The non-detects for 1,1-Dichloroethene, Benzene and Trichloroethene in the unspiked sample E2NZ6 are qualified "UJ".

6B. LABORATORY CONTROL SAMPLE

LCS analysis is not applicable to this method.

7. FIELD BLANK AND FIELD DUPLICATE

No samples were identified as Trip Blanks or Field Blanks. Samples E2NX0 / E2NX1 (14:00); E2NX2 / E2NZ0 (16:35) and E2NX4 / E2NZ2 (17:30) may be Field duplicate pairs. The Chain of Custody show the sample pairs being taken at the same date and time, but different station locations. Both samples E2NZ0 and E2NX2 contain no target compounds or trace Volatile TICs. The results and RPDs for the other samples are presented in the following table:

	E2NX0	E2NX1	RPDs
	µg/L	µg/L	
Cis-1,2-Dichloroethene	0.52	0	200
Trichloroethene	25	0	200
	E2NX4	E2NZ2	
	µg/L	µg/L	
1,1-Dichloroethane	0.45	0.44	2.25
Cis-1,2-Dichloroethene	0.66	0.63	4.65
Trichloroethene	45	45	0.0

Results are not qualified based upon the results of the Field Duplicates.

8. INTERNAL STANDARDS

The following trace Volatile sample has an internal Standard (1,4-Dichlorobenzene-d_4) below the lower limit and greater than 10% of the 12 hour standard. Detects are qualified "J" and non-detects are qualified "UJ".

E2NZ2
Bromoform, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,2-Dichlorobenzene, 1,2-Dibromo-3-Chloropropane, 1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene

9. COMPOUND IDENTIFICATION

After reviewing the mass spectra and chromatograms it appears that all Trace VOA compounds were properly identified.

Case Number: 35735 SDG Number: E2NX0
Site Name: Luster Street Groundwater Contamination (IN) Laboratory: Mitkem Corp.

10. COMPOUND QUANTITATION AND REPORTED DETECTION LIMITS

The following trace volatile samples have compound concentrations less than the CRQL. Detected compounds are qualified "J".

E2NX4, E2NZ2
1,1-Dichloroethane

VBLK2I
Chloroform

11. SYSTEM PERFORMANCE

GC/MS baseline indicated acceptable performance.

12. ADDITIONAL INFORMATION

The following trace Volatile samples have analytes that exceeded the instruments calibration range. For any analyte that exceeded the calibration range the results are qualified as estimated "J". The results from the diluted sample should be considered the final concentration.

E2NX4, E2NZ2
Trichloroethene

Reviewed by: Richard A Baltrus / Techlaw-ESAT
Date: October 23, 2006

CADRE Data Qualifier Sheet

Qualifiers	Data Qualifier Definitions
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the action limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
N	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification.
NJ	The analysis indicates the presence of an analyte for which there is presumptive evidence to make a tentative identification and the associated numerical value represents its approximate concentration.
R	The data are unusable. (The compound may or may not be present.)

Lab MITKEM (Mitkem Corporation) **SDG** E2NX0 **Case** 35735 **Contract** EPW05030 **Region** 5 **DDTID** 32495

Tentatively identified Compounds

VOA_Trace Sample=E2NZ8 Location=DW16 Matrix=Water Level=Trace

CAS No.	Compound Name	RT (mins)	Concentration		Lab Qualifier
556-67-2	Cyclotetrasiloxane, octamethyl-	10.748	5.5	ug/L	NJ

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Number of Soil Samples : 0
Number of Water Samples : 17
Number of Sediment Samples : 0

Sample Number :	E2NX0		E2NX1		E2NX2		E2NX3		E2NX4	
Sampling Location :	DW1		DW2		DW3		DW4		DW5	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006		9/12/2006		9/12/2006		9/12/2006		9/12/2006	
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		2		2		2		2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Vinyl chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Trichlorofluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Acetone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Carbon disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl acetate	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl tert-butyl ether	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.45	J
cis-1,2-Dichloroethene	0.52		0.50	U	0.50	U	0.50	U	0.66	J
2-Butanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Bromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Cyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Benzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dioxane	20	R	20	R	20	R	20	R	20	R
Trichloroethene	25		0.50	U	0.50	U	0.50	U	45	J
Methylcyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
4-Methyl-2-pentanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Toluene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	E2NX0		E2NX1		E2NX2		E2NX3		E2NX4	
Sampling Location :	DW1		DW2		DW3		DW4		DW5	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006		9/12/2006		9/12/2006		9/12/2006		9/12/2006	
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		2		2		2		2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
2-Hexanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromoethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
o-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
m,p-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Styrene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Isopropylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,3-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromo-3-chloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,4-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,3-Trichlorobenzene	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ

Case #: 35735 SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	E2NX4DL		E2NY0		E2NY6		E2NY7		E2NY8	
Sampling Location :	DW5		DW6		DW7		DW8		DW9	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :			9/12/2006		9/12/2006		9/12/2006		9/12/2006	
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		2		2		2		2	
Dilution Factor :	4.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloromethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Vinyl chloride	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromomethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Trichlorofluoromethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Acetone	20	U	5.0	U	5.0	U	5.0	U	5.0	U
Carbon disulfide	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl acetate	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	2.7	U	0.50	U	0.50	U	0.50	U	0.50	U
trans-1,2-Dichloroethene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl tert-butyl ether	2.0	U	0.50	U	0.50	U	0.50	U	1.4	
1,1-Dichloroethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
cis-1,2-Dichloroethene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
2-Butanone	20	U	5.0	U	5.0	U	5.0	U	5.0	U
Bromochloromethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,1-Trichloroethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Cyclohexane	2.0	U	0.50	U	0.50	U	0.50	UJ	0.50	U
Carbon tetrachloride	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Benzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichloroethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dioxane	80	R	20	R	20	R	20	R	20	R
Trichloroethene	37		0.50	U	0.50	U	0.50	U	0.50	U
Methylcyclohexane	2.0	U	0.50	U	0.50	U	0.50	UJ	0.50	U
1,2-Dichloropropane	2.0	U	0.50	U	0.50	U	0.50	UJ	0.50	U
Bromodichloromethane	2.0	U	0.50	U	0.50	U	0.50	UJ	0.50	U
cis-1,3-Dichloropropene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
4-Methyl-2-pentanone	20	U	5.0	U	5.0	U	5.0	U	5.0	U
Toluene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
trans-1,3-Dichloropropene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	E2NX4DL		E2NY0		E2NY6		E2NY7		E2NY8	
Sampling Location :	DW5		DW6		DW7		DW8		DW9	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :			9/12/2006		9/12/2006		9/12/2006		9/12/2006	
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		2		2		2		2	
Dilution Factor :	4.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Tetrachloroethene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
2-Hexanone	20	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibromochloromethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromoethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Chlorobenzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Ethylbenzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
o-Xylene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
m,p-Xylene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Styrene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromoform	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
Isopropylbenzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2,2-Tetrachloroethane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,3-Dichlorobenzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichlorobenzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromo-3-chloropropane	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,4-Trichlorobenzene	2.0	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,3-Trichlorobenzene	2.0	UJ	0.50	UJ	0.50	U	0.50	U	0.50	U

Case #: 35735
SDG : E2NX0
Site :
LUSHER ST GROUNDWATER
Lab. :
MITKEM
Reviewer :
Date :

Sample Number :	E2NY9		E2NZ0		E2NZ1		E2NZ2		E2NZ2DL	
Sampling Location :	DW10		DW11		DW12		DW13		DW13	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006		9/12/2006		9/12/2006		9/12/2006			
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		2		2		2		2	
Dilution Factor :	1.0		1.0		1.0		1.0		5.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Vinyl chloride	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Trichlorofluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,1-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Acetone	5.0	U	5.0	U	5.0	U	5.0	U	25	U
Carbon disulfide	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Methyl acetate	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Methylene chloride	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Methyl tert-butyl ether	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.44	J	2.5	U
cis-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.63		2.5	U
2-Butanone	5.0	U	5.0	U	5.0	U	5.0	U	25	U
Bromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	6.8	
1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Cyclohexane	0.50	UJ	0.50	U	0.50	U	0.50	U	2.5	U
Carbon tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Benzene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,4-Dioxane	20	R	20	R	20	R	20	R	100	R
Trichloroethene	0.50	U	0.50	U	0.50	U	45	J	64	
Methylcyclohexane	0.50	UJ	0.50	U	0.50	U	0.50	U	2.5	U
1,2-Dichloropropane	0.50	UJ	0.50	U	0.50	U	0.50	U	2.5	U
Bromodichloromethane	0.50	UJ	0.50	U	0.50	U	0.50	U	2.5	U
cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
4-Methyl-2-pentanone	5.0	U	5.0	U	5.0	U	5.0	U	25	U
Toluene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	E2NY9		E2NZ0		E2NZ1		E2NZ2		E2NZ2DL	
Sampling Location :	DW10		DW11		DW12		DW13		DW13	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006		9/12/2006		9/12/2006		9/12/2006			
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		2		2		2		2	
Dilution Factor :	1.0		1.0		1.0		1.0		5.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
2-Hexanone	5.0	U	5.0	U	5.0	U	5.0	U	25	U
Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,2-Dibromoethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Chlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
o-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
m,p-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Styrene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
Bromoform	0.50	U	0.50	U	0.50	U	0.50	UJ	2.5	U
Isopropylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	2.5	U
1,3-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	UJ	2.5	U
1,4-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	UJ	2.5	U
1,2-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	UJ	2.5	U
1,2-Dibromo-3-chloropropane	0.50	U	0.50	U	0.50	U	0.50	UJ	2.5	U
1,2,4-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	UJ	2.5	U
1,2,3-Trichlorobenzene	0.50	U	0.50	UJ	0.50	U	0.50	UJ	2.5	U

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer
Date :

Sample Number :	E2NZ6		E2NZ6MS		E2NZ6MSD		E2NZ7		E2NZ8	
Sampling Location :	DW14		DW14		DW14		DW15		DW16	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006						9/12/2006		9/12/2006	
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		2		2		2		2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Vinyl chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Trichlorofluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethene	0.50	UJ	4.4	J	5.3	J	0.50	U	0.50	U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Acetone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Carbon disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl acetate	0.50	U	0.86		0.60		0.86		0.50	U
Methylene chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl tert-butyl ether	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
cis-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
2-Butanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Bromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Cyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Benzene	0.50	UJ	5.1		5.8		0.50	U	0.50	U
1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dioxane	20	R	20	R	20	R	20	R	20	R
Trichloroethene	0.50	UJ	4.6		5.3	J	0.50	U	0.50	U
Methylcyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
4-Methyl-2-pentanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Toluene	0.50	U	5.0		5.7	J	0.50	U	0.50	U
trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U

Case #: 35735
SDG : E2NX0
Site :
LUSHER ST GROUNDWATER
Lab. :
MITKEM
Reviewer :
Date :

Sample Number :	E2NZ6		E2NZ6MS		E2NZ6MSD		E2NZ7		E2NZ8	
Sampling Location :	DW14		DW14		DW14		DW15		DW16	
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006						9/12/2006		9/12/2006	
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH	2		2		2		2		2	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
2-Hexanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromoethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chlorobenzene	0.50	U	4.9		5.6		0.50	U	0.50	U
Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
o-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
m,p-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Styrene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Isopropylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,3-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromo-3-chloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,4-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,3-Trichlorobenzene	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ	0.50	UJ

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	E2NZ9		VBLK2H		VBLK2I		VBLK5N		VBLK5P	
Sampling Location :	DW17									
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006									
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		7		7		7		7	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Vinyl chloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromomethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Trichlorofluoromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Acetone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Carbon disulfide	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl acetate	0.96		0.50	U	0.50	U	0.50	U	0.50	U
Methylene chloride	0.50	U	0.61		0.71		0.66		0.69	
trans-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methyl tert-butyl ether	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
cis-1,2-Dichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
2-Butanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Bromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chloroform	0.50	U	0.50	U	0.42	J	0.50	U	0.50	U
1,1,1-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Cyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Carbon tetrachloride	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Benzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dioxane	20	R	20	R	20	R	20	R	20	R
Trichloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Methylcyclohexane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromodichloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
cis-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
4-Methyl-2-pentanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Toluene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
trans-1,3-Dichloropropene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	E2NZ9		VBLK2H		VBLK2I		VBLK5N		VBLK5P	
Sampling Location :	DW17									
Matrix :	Water		Water		Water		Water		Water	
Units :	ug/L		ug/L		ug/L		ug/L		ug/L	
Date Sampled :	9/12/2006									
Time Sampled :										
%Moisture :	N/A		N/A		N/A		N/A		N/A	
pH :	2		7		7		7		7	
Dilution Factor :	1.0		1.0		1.0		1.0		1.0	
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Tetrachloroethene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
2-Hexanone	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
Dibromochloromethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromoethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Chlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Ethylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
o-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
m,p-Xylene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Styrene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Bromoform	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
Isopropylbenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,1,2,2-Tetrachloroethane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,3-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2-Dibromo-3-chloropropane	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,4-Trichlorobenzene	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,2,3-Trichlorobenzene	0.50	UJ	0.50	U	0.50	U	0.50	UJ	0.50	UJ

Case #: 35735
SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	VHBLK2I									
Sampling Location :										
Matrix :	Water									
Units :	ug/L									
Date Sampled :										
Time Sampled :										
%Moisture :	N/A									
pH :	7									
Dilution Factor :	1.0									
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
Dichlorodifluoromethane	0.50	U								
Chloromethane	0.50	U								
Vinyl chloride	0.50	U								
Bromomethane	0.50	U								
Chloroethane	0.50	U								
Trichlorofluoromethane	0.50	U								
1,1-Dichloroethene	0.50	U								
1,1,2-Trichloro-1,2,2-trifluoroethane	0.50	U								
Acetone	5.0	U								
Carbon disulfide	0.50	U								
Methyl acetate	0.50	U								
Methylene chloride	0.77	U								
trans-1,2-Dichloroethene	0.50	U								
Methyl tert-butyl ether	0.50	U								
1,1-Dichloroethane	0.50	U								
cis-1,2-Dichloroethene	0.50	U								
2-Butanone	5.0	U								
Bromochloromethane	0.50	U								
Chloroform	0.50	U								
1,1,1-Trichloroethane	0.50	U								
Cyclohexane	0.50	U								
Carbon tetrachloride	0.50	U								
Benzene	0.50	U								
1,2-Dichloroethane	0.50	U								
1,4-Dioxane	20	R								
Trichloroethene	0.50	U								
Methylcyclohexane	0.50	U								
1,2-Dichloropropane	0.50	U								
Bromodichloromethane	0.50	U								
cis-1,3-Dichloropropene	0.50	U								
4-Methyl-2-pentanone	5.0	U								
Toluene	0.50	U								
trans-1,3-Dichloropropene	0.50	U								

Case #: 35735 SDG : E2NX0
Site : LUSHER ST GROUNDWATER
Lab. : MITKEM
Reviewer :
Date :

Sample Number :	VHBLK2I									
Sampling Location :										
Matrix :	Water									
Units :	ug/L									
Date Sampled :										
Time Sampled :										
%Moisture :	N/A									
pH :	7									
Dilution Factor :	1.0									
Trace Volatile Compound	Result	Flag	Result	Flag	Result	Flag	Result	Flag	Result	Flag
1,1,2-Trichloroethane	0.50	U								
Tetrachloroethene	0.50	U								
2-Hexanone	5.0	U								
Dibromochloromethane	0.50	U								
1,2-Dibromoethane	0.50	U								
Chlorobenzene	0.50	U								
Ethylbenzene	0.50	U								
o-Xylene	0.50	U								
m,p-Xylene	0.50	U								
Styrene	0.50	U								
Bromoform	0.50	U								
Isopropylbenzene	0.50	U								
1,1,2,2-Tetrachloroethane	0.50	U								
1,3-Dichlorobenzene	0.50	U								
1,4-Dichlorobenzene	0.50	U								
1,2-Dichlorobenzene	0.50	U								
1,2-Dibromo-3-chloropropane	0.50	U								
1,2,4-Trichlorobenzene	0.50	U								
1,2,3-Trichlorobenzene	0.50	U								

Regional Transmittal Form

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE:

SUBJECT: Review of Data
Received for Review on 4 Oct 06

FROM: Stephen L. Ostrodka, Chief (SRT-4J)
Superfund Field Services Section

TO: Data User: IDEM

We have reviewed the data for the following case:

SITE NAME: Lusher Street Groundwater Contamination (IN)

CASE NUMBER: 35735 SDG NUMBER: E2NX0

Number and Type of Samples: 17 water samples

Sample Numbers: E2NX0-X4; E2NY0; Y6-Y9; Z0-Z6; Z8-Z9

Laboratory: MITKEM CORPORATION Hrs for Review: _____

Following are our findings:

CC: Howard Pham
Region 5 TPO
Mail Code: SRT-4J

Contract Laboratory Program

Sample Delivery Group (SDG)
Cover Sheet

SDG Number E2NX0

Laboratory Name Mitkem Corporation Lab Code MITKEM

Contract No. EP-W-05-030 Case No. 35735

Analysis Price $25.00 SDG Turnaround 21 days

EPA Sample Numbers in SDG (Listed in Numerical Order)

1) E2NX0	7) E2NY6	13) E2NZ2	19) E2NZ9
2) E2NX1	8) E2NY7	14) E2NZ6	20)
3) E2NX2	9) E2NY8	15) E2NZ6MS	21)
4) E2NX3	10) E2NY9	16) E2NZ6MSD	22)
5) E2NX4	11) E2NZ0	17) E2NZ7	23)
6) E2NY0	12) E2NZ1	18) E2NZ8	24)

First Sample in SDG: E2NX0

Last Sample in SDG: E2NZ9

First Sample Receipt Date: 9/14/06

Last Sample Receipt Date: 9/14/06

Note: *There are a maximum of 20 **field** samples [excluding Performance Evaluation (PE) samples] in an SDG. Attach the TR/COC records to this form in alphanumeric order (the order listed above on this form).*

Signature [signature] Date 9/15/06

0004

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	35735
DAS No:	
SDG No:	E2NX0

L

Date Shipped:	9/13/2006
Carrier Name:	FedEx
Airbill:	811417052790
Shipped to:	Mitkem Corporation 175 Metro Center Blvd. Warwick RI 02886 (401) 732-3400

Chain of Custody Record 9/13/06

Relinquished By	(Date / Time)	Received By	(Date / Time)
1 [signature]	9/13/06	[illegible]	9/14/06 845
2			
3			
4			

Sampler Signature: [signature]

For Lab Use Only

Lab Contract No:	EP-W-05-030
Unit Price:	$425
Transfer To:	—
Lab Contract No:	—
Unit Price:	—

	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
01	E2NX0	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245022 (HCL) (1)	DW1	S: 9/12/2006	14:00		OK
02	E2NX1	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245023 (HCL) (1)	DW2	S: 9/12/2006	14:00		
03	E2NX2	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245024 (HCL) (1)	DW3	S: 9/12/2006	16:35		
04	E2NX3	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245025 (HCL) (1)	DW4	S: 9/12/2006	16:31		
05	E2NX4	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245026 (HCL) (1)	DW5	S: 9/12/2006	17:30		
06	E2NY0	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245027 (HCL) (1)	DW6	S: 9/12/2006	19:30		
07	E2NY6	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245028 (HCL) (1)	DW7	S: 9/12/2006	12:20		
08	E2NY7	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245029 (HCL) (1)	DW8	S: 9/12/2006	14:59		
09	E2NY8	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245030 (HCL) (1)	DW9	S: 9/12/2006	15:25		
10	E2NY9	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245031 (HCL) (1)	DW10	S: 9/12/2006	13:50		OK

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC: [illegible]	Additional Sampler Signature(s): [signature]	Cooler Temperature Upon Receipt: 3°C	Chain of Custody Seal Number: 185630, 185679
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? Y	Shipment Iced? Y

CLP TVOA = CLP TCL Trace Volatiles

TR Number: 5-551068049-091306-0001

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	35735
DAS No:	
SDG No:	E2NX0

L

Date Shipped:	9/13/2006
Carrier Name:	FedEx
Airbill:	811417052790
Shipped to:	Mitkem Corporation 175 Metro Center Blvd. Warwick RI 02886 (401) 732-3400

Chain of Custody Record

	Relinquished By	(Date / Time)	Received By	(Date / Time)
1	Mark Jaworski	9/13/06 2200	UPS	9/14/06 345
2				
3				
4				

Sampler Signature:

For Lab Use Only

Lab Contract No:	EP-W-05-030
Unit Price:	$425
Transfer To:	—
Lab Contract No:	—
Unit Price:	—

ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
11 E2NZ0	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245032 (HCL) (1)	DW11	S: 9/12/2006	16:35		OK

Shipment for Case Complete? N	Sample(s) to be used for laboratory QC:	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 3°C	Chain of Custody Seal Number: 185680, 185679
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G	Custody Seal Intact? Y	Shipment Iced? Y

CLP TVOA = CLP TCL Trace Volatiles

020

TR Number: 5-551068049-091306-0001

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.

Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

USEPA Contract Laboratory Program
Organic Traffic Report & Chain of Custody Record

Case No:	35735
DAS No:	
SDG No:	E2NX0

L

Date Shipped:	9/13/2006
Carrier Name:	FedEx
Airbill:	811417052805
Shipped to:	Mitkem Corporation 175 Metro Center Blvd. Warwick RI 02886 (401) 732-3400

Chain of Custody Record

	Relinquished By	(Date / Time)	Received By	(Date / Time)
1	Mark Jaworski	9/13/06 2:00 pm	Fedex	9/14/06 845
2				
3				
4				

Sampler Signature:

For Lab Use Only

Lab Contract No:	EP-W-05-030
Unit Price:	$425
Transfer To:	—
Lab Contract No:	—
Unit Price:	—

	ORGANIC SAMPLE No.	MATRIX/ SAMPLER	CONC/ TYPE	ANALYSIS/ TURNAROUND	TAG No./ PRESERVATIVE/ Bottles	STATION LOCATION	SAMPLE COLLECT DATE/TIME		INORGANIC SAMPLE No.	FOR LAB USE ONLY Sample Condition On Receipt
12	E2NZ1	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245033 (HCL) (1)	DW12	S: 9/12/2006	16:45		OK
13	E2NZ2	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245034 (HCL) (1)	DW13	S: 9/12/2006	17:30		
14	E2NZ6	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245035 (HCL), 5245039 (HCL), 5245040 (HCL) (3)	DW14	S: 9/12/2006	12:28		
15	E2NZ7	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245036 (HCL) (1)	DW15	S: 9/12/2006	13:15		
16	E2NZ8	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245037 (HCL) (1)	DW16	S: 9/12/2006	13:45		
17	E2NZ9	Ground Water/ Mark Jaworski	L/G	CLP TVOA (21)	5245038 (HCL) (1)	DW17	S: 9/12/2006	14:50		OK

SDG - Final Sample

Shipment for Case Complete? Y	Sample(s) to be used for laboratory QC: E2NZ6	Additional Sampler Signature(s):	Cooler Temperature Upon Receipt: 4°C	Chain of Custody Seal Number: 185797, 185795
Analysis Key:	Concentration: L = Low, M = Low/Medium, H = High	Type/Designate: Composite = C, Grab = G		Custody Seal Intact? Y / Shipment Iced? Y

CLP TVOA = CLP TCL Trace Volatiles

TR Number: 5-551068049-091306-0002

LABORATORY COPY

PR provides preliminary results. Requests for preliminary results will increase analytical costs.
Send Copy to: Sample Management Office, Attn: Heather Bauer, CSC, 15000 Conference Center Dr., Chantilly, VA 20151-3819; Phone 703/818-4200; Fax 703/818-4602

SDG Narrative

Mitkem Corporation submits the enclosed data package in response to USEPA Case # 35735 and SDG# E2NX0. Analyses were performed for seventeen aqueous samples that were received on September 15, 2006. The analyses were performed under USEPA Contract # EP-W-05-030. Please note that the sample-shipping cooler received was measured at 4°C.

The following samples are submitted in this data package:

Client ID	Lab ID	Analysis	VOA pH
E2NX0	E1396-01A	TV	<2
E2NX1	E1396-02A	TV	<2
E2NX2	E1396-03A	TV	<2
E2NX3	E1396-04A	TV	<2
E2NX4	E1396-05A	TV	<2
E2NY0	E1396-06A	TV	<2
E2NY6	E1396-07A	TV	<2
E2NY7	E1396-08A	TV	<2
E2NY8	E1396-09A	TV	<2
E2NY9	E1396-10A	TV	<2
E2NZ0	E1396-11A	TV	<2
E2NZ1	E1396-12A	TV	<2
E2NZ2	E1396-13A	TV	<2
E2NZ6	E1396-14A	TV	<2
E2NZ6MS	E1396-14AMS	TV	<2
E2NZ6MSD	E1396-14AMSD	TV	<2
E2NZ7	E1396-15A	TV	<2
E2NZ8	E1396-16A	TV	<2
E2NZ9	E1396-17A	TV	<2

TV = Trace Volatiles

The analyses were performed using USEPA CLP Multi-Media, Multi-Concentration (SOM01.1) protocols. The analyses were performed with strict adherence to the SOW with the following exceptions and observations:

1. Overall Observation:

Where needed, manual integrations were performed to improve data quality. The corrections were reviewed and associated hardcopies generated and reported as required. Manual integrations are coded to provide the data reviewer justification for such action. The codes are labeled on the ion chromatogram signal (GC/MS signal) and chromatogram for GC based analysis as follows:

- M1 peak tailing or fronting.
- M2 peak co-elution.
- M3 rising or falling baseline.
- M4 retention time shift.
- M5 miscellaneous – under this category, the justification is explained.

2. Trace Volatile Analysis:

Trap used for instruments V2 and V5: OI Analytical #10 trap containing 8 cm each of Tenax, silica gel and carbon molecular sieve.

GC column used: 30 m x 0.25 mm id (1.4 um film thickness) DB-624 capillary column.

cis-1,3-Dichloropropene-d4 was detected in method blanks and in samples at approximately 7.3 min. The volatile organic deuterated monitoring compound spike solution contains both the cis- and trans-1,3-dichloropropene isomers. cis-1,3-Dichloropropene-d4 is not a deuterated monitoring compound for SOM01.1, while the trans isomer is. The cis isomer is considered a laboratory artifact, and is not reported as a tentatively identified compound.

The following equation was used to calculate the concentration of target analytes for aqueous samples:

$$\text{Concentration } (\mu g/L) = \frac{(Amt)(DF)(UF)(25)}{V_o}$$

where: Amt = CAL – AMT on raw data
DF = Dilution factor
UF = ng unit correction factor
V_o = Sample volume purged (mL)

DMC recoveries were within the QC limits with the exception of the following: high recovery of chloroethane-d5, 1,1-dichloroethene-d2 and toluene-d8 in sample E3NX1, high recovery of chloroethane-d5, 1,1-dichloroethene-d2 and 1,2-dichloropropane-d6 in sample E2NX4, high recovery of chloroethane-d5, 1,2-dichloropropane-d6 and toluene-d8 in sample E2NZ2, high recovery of benzene-d6 and toluene-d8 in sample E2NZ6, high recovery of 1,1-dichloroethene-d2 and low recovery of 1,4-dioxane-d8 in samples E2NZ6MS and E2NZ8, high recovery of 1,1-dichloroethene-d2 in E2NZ6MSD, high recovery of chloroethane-d5 and 1,1-dichloroethene-d2 in sample E2NZ9, low recovery of 1,4-dioxane-d8 in sample E2NY6, low recovery of ,2-dichloropropane-d6 in samples E2NY7 and E2NY9 and high recovery of 1,1-dichloroethene-d2 and chloroform-d in sample E2NZ1.

Matrix spike and matrix spike duplicate were performed on sample E2NZ6. Spike recoveries were within the advisory QC limits. Replicate RPDs were within the advisory QC limits with the exception of 1,1-dichloroethene, benzene and trichloroethene.

Internal standard area counts were within QC criteria with the exception of sample E2NZ2. The sample was re-analyzed at dilution with internal standard area counts within QC criteria.

To ensure that all target analytes were determined within the instrument calibration range, and not analyte response, the following samples were re-analyzed at dilution: E2NX4 (4x) and E2NZ2 (5x).

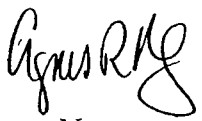
Manual integration was performed on acetone in standard VSTD0055J.

For 1,4-dioxane and 1,4-dioxane-d8, the laboratory was unable to achieve the minimum average RRF of 0.0050 for both the initial calibration as well as the opening and closing calibration verifications. In our experience, this compound will not reliably achieve the SOM method performance criteria due to its high water solubility. Please note that a better approach is to analyze this as an extractable semivolatile organic compound.

No other unusual observation was made for the analysis.

All of the submittals to the region are originals other than logbook pages. Photocopies of logbook pages are included, with the originals maintained on file at the laboratory. Tunes, calibration verifications and initial calibrations that are shared among several cases are photocopies indicating the location of the originals.

I certify that this Sample Data Package is in compliance with the terms and condition of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy Sample Data Package and in the electronic data deliverable has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.



Agnes Ng
CLP Project Manager
10/03/06

2A - FORM II VOA-1

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 35735 Mod. Ref No.: SDG No.: E2NX0

Level: (TRACE or LOW/MED) TRACE

	EPA SAMPLE NO.	VDMC1 (VCL)	#	VDMC2 (CLA)	#	VDMC3 (DCE)	#	VDMC4 (BUT)	#	VDMC5 (CLF)	#	VDMC6 (DCA)	#	VDMC7 (BEN)	#
01	VBLK5N	98		108		76		104		96		86		106	
02	E2NX1	125		136	*	107	*	96		121		112		121	
03	E2NX2	114		126		100		85		114		101		116	
04	E2NX4	109		150	*	106	*	98		121		111		124	
05	VBLK5P	103		105		85		102		105		93		112	
06	E2NX4DL	109		119		96		87		111		100		116	
07	E2NX0	111		124		100		84		110		102		120	
08	E2NX3	105		109		94		77		108		94		115	
09	E2NY0	117		127		101		88		114		101		119	
10	E2NZ0	117		128		95		79		113		100		114	
11	E2NZ2	122		132	*	99		79		118		103		124	
12	E2NZ6	121		131		101		82		118		101		126	*
13	E2NZ6MS	107		108		114	*	72		102		87		105	
14	E2NZ6MSD	120		128		133	*	85		119		107		121	
15	E2NZ7	113		126		90		81		108		99		113	
16	E2NZ8	124		121		110	*	77		117		104		114	
17	E2NZ9	121		135	*	110	*	88		120		104		121	
18	VBLK2H	93		98		80		119		95		97		94	
19	E2NZ2DL	94		100		86		85		106		102		103	
20	E2NY6	91		103		91		91		110		110		103	
21	VBLK2I	89		104		89		92		103		101		96	
22	E2NY7	83		94		82		74		94		93		85	
23	E2NY8	100		115		97		98		114		114		101	
24	E2NY9	86		99		83		75		99		100		88	
25	E2NZ1	108		124		111	*	86		129	*	128		115	
26	VHBLK2I	93		111		98		96		115		114		101	

			QC LIMITS
VDMC1	(VCL)	= Vinyl chloride-d3	(65-131)
VDMC2	(CLA)	= Chloroethane-d5	(71-131)
VDMC3	(DCE)	= 1,1-Dichloroethene-d2	(55-104)
VDMC4	(BUT)	= 2-Butanone-d5	(49-155)
VDMC5	(CLF)	= Chloroform-d	(78-121)
VDMC6	(DCA)	= 1,2-Dichloroethane-d4	(78-129)
VDMC7	(BEN)	= Benzene-d6	(77-124)

Column to be used to flag recovery values

* Values outside of contract required QC limits

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: MITKEM CORPORATION Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 35735 Mod. Ref No.: SDG No.: E2NX0

Level: (TRACE or LOW/MED) TRACE

	EPA SAMPLE NO.	VDMC8 (DPA) #	VDMC9 (TOL) #	VDMC10 (TDP) #	VDMC11 (HEX) #	VDMC12 (DXE) #	VDMC13 (TCA) #	VDMC14 (DCZ) #	TOT OUT
01	VBLK5N	100	105	93	104	79	87	92	0
02	E2NX1	118	123 *	102	95	89	112	113	4
03	E2NX2	112	113	97	82	90	107	106	0
04	E2NX4	127 *	121 *	102	95	67	109	112	4
05	VBLK5P	112	108	97	100	67	94	101	0
06	E2NX4DL	118	116	104	84	84	102	103	0
07	E2NX0	121	119	99	82	68	101	104	0
08	E2NX3	108	117	98	74	82	98	100	0
09	E2NY0	118	117	92	80	71	102	104	0
10	E2NZ0	111	115	89	72	74	100	101	0
11	E2NZ2	127 *	122 *	97	76	67	109	113	3
12	E2NZ6	121	124 *	102	81	55	105	115	2
13	E2NZ6MS	103	105	90	70	49 *	90	98	2
14	E2NZ6MSD	120	121 *	106	83	64	109	113	2
15	E2NZ7	110	112	88	78	64	99	105	0
16	E2NZ8	115	116	92	74	49 *	108	108	2
17	E2NZ9	117	120	98	83	52	107	110	2
18	VBLK2H	81	96	98	120	82	91	89	0
19	E2NZ2DL	89	102	95	80	65	94	91	0
20	E2NY6	89	102	100	87	44 *	103	99	1
21	VBLK2I	80	96	90	82	62	92	87	0
22	E2NY7	73 *	85	79	66	57	83	80	1
23	E2NY8	85	97	96	89	82	99	98	0
24	E2NY9	76 *	86	81	64	57	88	84	1
25	E2NZ1	98	118	118	79	61	118	108	2
26	VHBLK2I	87	101	100	82	51	104	96	0

			QC LIMITS
VDMC8	(DPA)	= 1,2-Dichloropropane-d6	(79-124)
VDMC9	(TOL)	= Toluene-d8	(77-121)
VDMC10	(TDP)	= trans-1,3-Dichloropropene-d4	(73-121)
VDMC11	(HEX)	= 2-Hexanone-d5	(28-135)
VDMC12	(DXE)	= 1,4-Dioxane-d8	(50-150)
VDMC13	(TCA)	= 1,1,2,2-Tetrachloroethane-d2	(73-125)
VDMC14	(DCZ)	= 1,2-Dichlorobenzene-d4	(80-131)

RB 10/18/06

Column to be used to flag recovery values

* Values outside of contract required QC limits

3A - FORM III VOA-1

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: MITKEM CORPORATION Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 35735 Mod. Ref No.: SDG No.: E2NX0

Matrix Spike - EPA Sample No.: E2NZ6 Level: (LOW/MED) TRACE

COMPOUND	SPIKE ADDED (µg/L)	SAMPLE CONCENTRATION (µg/L)	MS CONCENTRATION (µg/L)	MS %REC	#	QC. LIMITS REC.
1,1-Dichloroethene	5.0000	0.0000	4.3981	88		61-145
Benzene	5.0000	0.0000	5.0768	102		76-127
Trichloroethene	5.0000	0.0000	4.5520	91		71-120
Toluene	5.0000	0.0000	5.0237	100		76-125
Chlorobenzene	5.0000	0.0000	4.8873	98		75-130

COMPOUND	SPIKE ADDED (µg/L)	MSD CONCENTRATION (µg/L)	MSD %REC	#	%RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	5.0000	5.2563	105		18	*	0-14	61-145
Benzene	5.0000	5.7617	115		13	*	0-11	76-127
Trichloroethene	5.0000	5.3057	106		15	*	0-14	71-120
Toluene	5.0000	5.7434	115		13		0-13	76-125
Chlorobenzene	5.0000	5.5936	112		13		0-13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 3 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits

COMMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK2H

b Name: MITKEM CORPORATION Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 35735 Mod. Ref No.: SDG No.: E2NX0

Lab File ID: V2H8432.D Lab Sample ID: MB-25964

Instrument ID: V2

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/18/2006

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 10:13

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E2NZ2DL	E1396-13ADL	V2H8447.D	18:10
02	E2NY6	E1396-07A	V2H8450.D	19:39

MMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK2I

b Name: MITKEM CORPORATION Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 35735 Mod. Ref No.: SDG No.: E2NX0

Lab File ID: V2H8452.D Lab Sample ID: MB-25966

Instrument ID: V2

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/18/2006

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 21:29

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E2NY7	E1396-08A	V2H8453.D	22:07
02	E2NY8	E1396-09A	V2H8454.D	22:37
03	E2NY9	E1396-10A	V2H8455.D	23:07
04	E2NZ1	E1396-12A	V2H8456.D	23:37
05	VHBLK2I	VHBLK2I	V2H8457.D	0:07

MMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK5N

b Name: MITKEM CORPORATION Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 35735 Mod. Ref No.: SDG No.: E2NX0

Lab File ID: V5H0672.D Lab Sample ID: MB-25948

Instrument ID: V5

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/16/2006

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 12:56

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E2NX1	E1396-02A	V5H0682.D	18:14
02	E2NX2	E1396-03A	V5H0683.D	18:46
03	E2NX4	E1396-05A	V5H0685.D	22:53

MMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK5P

b Name: MITKEM CORPORATION Contract: EP-W-05-030

Lab Code: MITKEM Case No.: 35735 Mod. Ref No.: SDG No.: E2NX0

Lab File ID: V5H0702.D Lab Sample ID: MB-25954

Instrument ID: V5

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 09/17/2006

Level: (TRACE or LOW/MED) TRACE Time Analyzed: 2:18

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	E2NX4DL	E1396-05ADL	V5H0703.D	2:50
02	E2NX0	E1396-01A	V5H0704.D	3:22
03	E2NX3	E1396-04A	V5H0705.D	3:54
04	E2NY0	E1396-06A	V5H0706.D	4:26
05	E2NZ0	E1396-11A	V5H0711.D	7:06
06	E2NZ2	E1396-13A	V5H0713.D	8:10
07	E2NZ6	E1396-14A	V5H0714.D	8:42
08	E2NZ6MS	E1396-14AMS	V5H0715.D	9:14
09	E2NZ6MSD	E1396-14AMSD	V5H0716.D	9:46
10	E2NZ7	E1396-15A	V5H0717.D	10:17
11	E2NZ8	E1396-16A	V5H0718.D	10:49
12	E2NZ9	E1396-17A	V5H0719.D	11:21

MMENTS:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
ESD Central Regional Laboratory
Data Tracking Form for Contract Samples

Sample Delivery Group: E2NX0 CERCLIS No: IND982073785

Case No: 35725 Site Name/Location: Lusher Street Groundwater (IN)

Contractor or EPA Lab: MHKem Data User: IDEM

No. of Samples: 17 Date Sampled or Date Received: 4 Oct 06

Have Chain-of-Custody records been received? Yes X No _____
Have traffic reports or packing lists been received? Yes X No _____
If no, are traffic report or packing list numbers written on the Chain-of-Custody Record?
Yes _____ No _____
If no, which traffic report or packing list numbers are missing?

_____ _____ _____ _____
_____ _____ _____ _____

Are basic data forms in? Yes X No _____
No of samples claimed: _____ No. of samples received: _____

Received by: Adam Johnson Date: 4 Oct 06

Received by LSSS: Adam Johnson Date: 5 Oct 06

Review started: 16 Oct 2006 Reviewer Signature: Richard A. Datum

Total time spent on review: 15 Date review completed: 17 Oct 2006

Copied by: A. C. Harvey Date: Oct 26, 2006

Mailed to user by: Adam Johnson Date: 27 Oct 06

DATA USER:
Please fill in the blanks below and return this form to:
Sylvia Griffin, Data Mgmt. Coordinator, Region V, ML-10C

Data received by: _____ Date: _____

Data review received by: _____ Date: _____

Inorganic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Organic Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
Dioxin data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK
SAS Data Complete	[ ] Suitable for Intended Purpose [ ] ✓ if OK

PROBLEMS: Please indicate reasons why data are not suitable for your uses.

_____

_____

Received by Data Mgmt. Coordinator for Files. Date: _____